UNIVERSITY OF INDONESIA

FOOD SECURITY OF HOUSEHOLDS ATTACHED TO MALE AND FEMALE MIGRANT WORKERS: DETERMINANTS AND IMPACT ON NUTRITIONAL STATUS OF THE CHILDREN

THESIS

in partial fulfillment of the requirements for the degree of Master of Science in Community Nutrition

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PREFACE

Household food insecurity is still prevalent in Indonesia. Studies in several areas showed that the percentage of food secure household was quite low. In Java, only 20% household with under-five children was food secure during economic crisis (Studdert et al, 2001). Analysis by Usfar et al (2005) showed that the percentage of food secure households in urban and rural area were 23% and 16%, respectively. Latest study by Indonesian Central Food Security Agency (2009) showed that in East Java, even though only 2% households were food insecure, 36% households were vulnerable to food insecurity. Food availability and accessibility are the main causes of food insecurity. Regarding accessibility, poverty is a predominant factor that influences food security in Indonesia. Migration, through remittance, is one of coping strategy commonly done by Indonesians during crisis and poverty. Although several studies showed that remittances sent by the workers to their home country contributed to the economic improvements, little is known whether it also improve household food security status and results in the improvement of nutritional status, mainly among vulnerable group in the household (e.g. under-five children).

Other concern is related to social costs of migration specifically to the children left behind. Children are usually cared by parents, especially mothers. Increasing number of female migrant worker may also influence caring practice of the children left behind. When mothers leave home, child-caring may be taken over by other relatives, which may reduce the quality of care.

As study on the effect of labor migration on household food security by considering gender aspect in Indonesia is still limited and not well documented, therefore, study on the household food security, child caring, and nutritional status of the children attached to migrant workers, is need to be conducted. This thesis is divided into six chapters which consisted of introduction (part 1), literature review (part 2), methodology (part 3), result (part 4), discussion (part 5), and conclusion and recommendations (part 6). In appendix, the manuscript of this thesis to be submitted to the Journal of Nutrition is included.

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ABSTRACT

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Thesis title : Food Security of Households Attached to Male and Female Migrant Workers: Determinants and Impact on Nutritional Status of the Children

This cross sectional study was aimed to compare household food security among household attached to male and female migrant worker, its determinant factors and impact on child nutritional status. Study was done in February-March 2010, involving 450 households in Tulungagung Districts, East Java Province, and found gender of the migrant worker is a predictor of household food security status. Household attached to male migrant workers had better responsive feeding, prefer formal health seeking facilities, did more appropriate response when the child is crying and had better knowledge on child caring. Child nutritional status was not significantly different among two groups.

Key words: household food security, migrant worker, remittance, child care, nutritional status

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ABSTRAK

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Judul Tesis : Ketahanan Pangan Rumah Tangga pada Keluarga Tenaga Kerja Pria dan Wanita: Faktor-faktor Penyebab dan Dampaknya pada Status Gizi Anak

Penelitian cross sectional ini bertujuan untuk membandingkan status ketahanan pangan rumah tangga pada keluarga Tenaga Kerja Indonesia Pria dan Wanita, factor-faktor penyebab dan dampaknya terhadap status gizi anak. Penelitian dilakukan pada bulan Januari hingga Maret 2010 di Kabupaten Tulungagung, Propinsi Jawa Timur. Hasil penelitian menunjukkan bahwa jender tenaga kerja Indonesia menentukan status ketahanan pangan rumah tangga. Pada keluarga tenaga kerja pria, juga diketahui memiliki respons pemberian makan anak yang lebih bagus, cenderung memilih fasilitas pencarian pertolongan kesehatan yang formal, melakukan respons yang tepat ketika anak rewel, dan mempunyai pengetahuan menganai pengasuhan anak yang lebih baik. Tidak ditemukan perbedaan yang signifikan mengenai status gizi anak pada keluarga Tenaga Kerja Indonesia pria dan wanita.

Kata kunci: ketahanan pangan rumah tangga, tenaga kerja indonesia, *remittance*, pola asuh anak, status gizi

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LIST OF ABBREVIATIONS

BDI	: Beck's Depression Inventory
BPS	: *Badan Pusat Statistik*
CSI	: Coping Strategy Index
DDS	: Dietary Diversity Score
FANTA	: Food and Nutrition Technical Assistance
FAO	: Food and Agricultural Organization
FGD	: Focus Group Discussion
FSAU	: Food Security Analysis Unit
GDP	: Gross Domestic Product
HAZ	: Height for Age Z-score
HDDS	: Household Dietary Diversity Score
HFIAS	: Household Food Security Access Scale
IDDS	: Individual Dietary Diversity Score
IFPRI	: International Food Policy Research Institute
ILO	: International Labor Organization
IOM	: International Organization on Migration
NGO	: Non Government Organization
RDA	: Recommended Dietary Adequacy
UNICEF	: United Nations Children's Fund
US-HFSSM	: United States-Household Food Security Survey Module
WAZ	: Weight for Age Z-score
WFP	: World Food Program
WHO	: World Health Organization
WHZ	: Weight for Height Z-score

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OPERATIONAL DEFINITION

Household: a group of persons living in a physical building live togteher and eat from the same kitchen (eat from the same kitchen means that the daily needs is managed as one)

Household food security: Capability of the household to meet the food requirement of its entire member which was assessed using US-FSSM.

Household coping actions: Activities taken by any member of the household to fulfill the food requirement of its member, if the household experience food insecurity

Household coping strategy: A group of several coping actions that are similar or have similar values

Dietary intake: All food and nutrient ingested by the body

Child care practice:
Behaviors and practices of caregivers (mothers, siblings, fathers, and childcare providers) to provide the food, health care, stimulation, and emotional support for children.

Care giver resources: Resources needed by caregivers to deliver caring practice

Nutritional status: Outcome of individual (children) food usage (ingestion, absorption, utilization), health status and care, measured by anthropometry

Migrant worker: Man or women, who are married, have children age 6 months to 10 years old, and has been working outside of Indonesia for at least 6 months

Remittance: Money/ good sent by the migrant workers to the households in their original country

Head of the household Person who is the most responsible to the household

Caregiver: Person who is the most responsible to give care to the child

Gender: Gender refers to the differences and commonalities between women and men which are set by convention and other social, economic, political and cultural forces. But in this study, gender is equivalent to sex

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PART 1
INTRODUCTION

1.1. Background

Food security becomes an emerging issue since people rely on food to maintain their life. FAO (2003) defined food security as a condition which is exist when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

Generally, food availability and accessibility are the main causes of food insecurity. Regarding accessibility, poverty is a predominant factor that influences food security in Indonesia. Food is available but at a cost that people find difficult to afford (WFP, 2007). Increasing number of poverty in Indonesia was triggered by economic crisis in 1997. Except in the agricultural sector, there was a general decline in employment and increased people living in poverty (Soekirman, 2001). To cope with the crisis, many Indonesians try to find a better job and income by working as migrant workers. Ananta (2001) and Firdausy (2005) agreed that population migration had been an important coping mechanism during the crisis in Indonesia. Although economic situation in Indonesia was gradually recovered after 2000, continuing population growth and a slowly recovering economy have put pressure on the workforce. From 1995 to 2005, the workforce increased by 1.3 per cent, adding an average of 1.2 million people per year, but because of the economic crisis, the increases could not effectively be absorbed and the official number of unemployed workers increased from 9.5 million in 2003 to 10.8 million in 2005 (IOM, 2008). From 1994 to 2004, open unemployment rate jumped from 4.4% to 6.5% (BPS 2004 from Suryadarma et al, 2007), and from 2004 to 2007, even become more increased, around 9% per year (BPS 2008, from Suparno 2008). Global economic crisis during period of 2006-2008 may also worsen this situation, which not only increase unemployment rate (ILO, 2009) but also increase global food and fuel crisis (FAO, 2009).

Economic crisis not only increased the number of Indonesian people working abroad, e.g. in Malaysia, Saudi Arabia, Taiwan, Hong Kong, Brunei, but

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also contributed to the increased of international female labor migrants compared to male. In 1995-1996, there were 48 male migrants in every 100 female migrants. The ratio decreased to 20 male migrants in every 100 female migrants in1997-1998 (after the crisis) (Raharto, 2002). In 2008, the ratio was slightly increased again to 25 male migrant male in every 100 female migrants (BNP2TKI, 2008), and shows that female migrant workers dominate labor migration in Indonesia.

Although international migration only contributes around 0.2% of Indonesian GDP (Tjiptoheriyanto, 1996, from Bandiyono and Alihar, 2009), micro studies indicate that international migration makes a significant contribution to regional development and to the lives of the members of a migrants' family (Bandiyono and Alihar, 2009). Remittances are one of the most visible developmental effects of migration. There is evidence that remittance alleviate poverty at the household level in some countries, among others by funding child schooling, reducing child labour, increasing family health and expanding durable good ownership (Yang, 2004 in Omelaniuk, 2009). Studies on the use of remittances show that they are used primarily to meet the basic needs of households, including food, housing, clothing, health and education (Hamid, 2007).

Studies showed evidence that remittance flows and expenditure patterns can be highly gender-specific. A survey conducted in Sri Lanka by the World Bank shows that remittances received by female heads of household have a positive impact on health and education of the children (controlling for sex, age, land ownership, food consumption, absence of father etc) (De and Ratha, 2005). In Mexico, improvement of children's health and mortality rate was found higher among household with migrant mothers than with migrant fathers (Hildebrandt and McKenzie, 2005). In some countries, women tend to remit a higher percentage of their salaries than men (although overall less than men, because of low salary levels), and prioritize nutrition, health and education for the family over savings and investments for the future (Escriva and Ribas, 2004 from Omelaniuk, 2009).

Since there is culturally constructed roles that men and women play to influence the way in which they invest their remittances, household food security may also influenced by gender out migration (Lemke, 2003). For some

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households, remittances can be an important contribution to household income, and depending on the particular circumstances, can help the household achieve a higher level of food security (Horenstein, 1989). Gender affects the amount and frequency of the remittances that migrants send, the way in which these are spent or invested, as well as their potential or limitations for contributing to household food security and local development in rural communities. Lemke (2002) in a study of gender relation and food security among black south African household, found that households attached to migrant men have about three times the income of households attached to migrant women, and households attached to migrant men are more food secure as a result of much higher household incomes available to them. While empirical evidence from UN-INSTRAW (2008) suggested that placing economic resources such as remittances in the hands of women increases food security and overall welfare of the household.

Beside the positive impacts results in migration, negative forces associated with the burden of the migrant labor system are also well documented. The major concern of migration impacts is the social costs of migration specifically to the children left behind. A study by Scalabrini (2003) reveals that there is a variation in terms of gender roles when women migrate compared to men. When men migrate, the left behind wives assumed more responsibilities with their dual roles as fathers and mothers. But when women migrate, it appears that families go through more adjustments, since men are not ready to take up care giving. This issue becomes emerging since quality of care highly determines health and nutritional status of children. As study on the effect of labor migration on household food security by considering gender aspect in Indonesia limited and not well documented, therefore, study on the household food security, child caring, and nutritional status of the children attached to migrant workers, is need to be conducted.

1.2. Problem Statement and Rationale of the Study

1.2.1. Problem Statements

1. Household food insecurity is still prevalent in Indonesia. Studies in several areas showed that the percentage of food secure household was quite low. In

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Java, only 20% household with under-five children was food secure during economic crisis (Studdert et al, 2001). Other research by Usfar et al (2005) in two urban and four rural areas in Indonesia showed that the percentage of food secure households in urban and rural area were 23% and 16%, respectively. Latest study by Indonesian Central Food Security Agency (2009) showed that in East Java, even though only 2% households were food insecure, 36% households were vulnerable to food insecurity.

2. The number of Indonesian migrant workers is increasing, meaning that more children left by their parents, mainly mothers, since there is a trend on the increasing number of female migrant workers. Single mother or single father may have different pattern on child caring which may influence the quality of care and contribute to the nutritional status of children.
3. Malnutrition among children is still prevalent in Indonesia. According to Indonesian baseline health research (Riskesdas 2007), the prevalence of stunting, wasting and underweight among under-five children in Indonesia were 18.4%, 36.8% and 13.6% respectively. While the prevalence of underweight among children age 6-14 years old were 13.3% (boy) and 10.9% (girls). Specifically for East Java province, the prevalence of underweight, stunting and wasting among under-five children were 17.4%, 34.8% and 13.7% respectively. Although the prevalence of stunting and wasting in East Java were lower compared to national prevalence, both were at high category of public health problem according to WHO classification.

1.2.2 Rationale of the Study

1. Although several studies showed that remittances sent by the workers to their home country contributed to the economic improvements, little is known whether it also improve household food security status and results in the improvement of nutritional status, mainly among vulnerable group in the household (e.g. under-five children).
2. Several studies from other countries showed that there was a difference in the utilization of remittance among male and female migrant workers. Female, usually earn lower income, but more reliable and be utilized for basic need,

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including food, and education. However, study in Indonesia is still limited on this. If remittance may contribute to household food security status, there would be a difference of household food security status among male and female migrant workers

3. Children are usually cared by parents, especially mothers. Increasing number of female migrant worker may also influence caring pattern of the children left behind. In some areas in Indonesia, due to culture and belief, responsibility for child-caring is often laid on mothers. When mothers leave home, child-caring may be taken over by other relatives, which may worsen the quality of care.

1.3. Objectives and Hypothesis

1.3.1. General Objective

General objectives of this study: to compare household food security among household attached to male and female migrant worker, its determinant factors and its impact on child nutritional status

1.3.2. Specific Objectives

To compare between households attached to male and female migrant workers in terms of:

1. Household food security status
2. Immediate causes of household food insecurity (household food production, food stock from purchasing, food/ non food assistance, coping strategy)
3. Underlying causes of household food insecurity (economic and physical access)
4. Basic causes of household food insecurity (socio economic characteristics, socio demography characteristics, and characteristics of the occupation)
5. Resources for care and child care practice
6. Nutritional status of the children

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1.3.3. Hypothesis of the Study

1. Household food security status among households attached to male migrant worker is better than among households attached to female migrant worker.
2. Gender of the migrant worker is one of the predictor of household food security status
3. Basic causes of household food insecurity is stronger predictor than underlying and immediate causes of household food insecurity
4. Nutritional status of children attached to male migrant worker is better than nutritional status of children attached to female migrant worker
5. Gender, household food security and care are significant predictor of child nutritional status

1.4. Conceptual Framework

This study was more focused on household food security, which may determined by several factors, from immediate, underlying to the basic level as shown in figure 1. Gender of the migrant worker may influence household food security indirectly through the basic determinant of household food insecurity, i.e. socio economic status. Gender of the migrant workers also may influence child care practice. Household food security along with child care practice may influence dietary intake, which later on give impact on child nutritional status.

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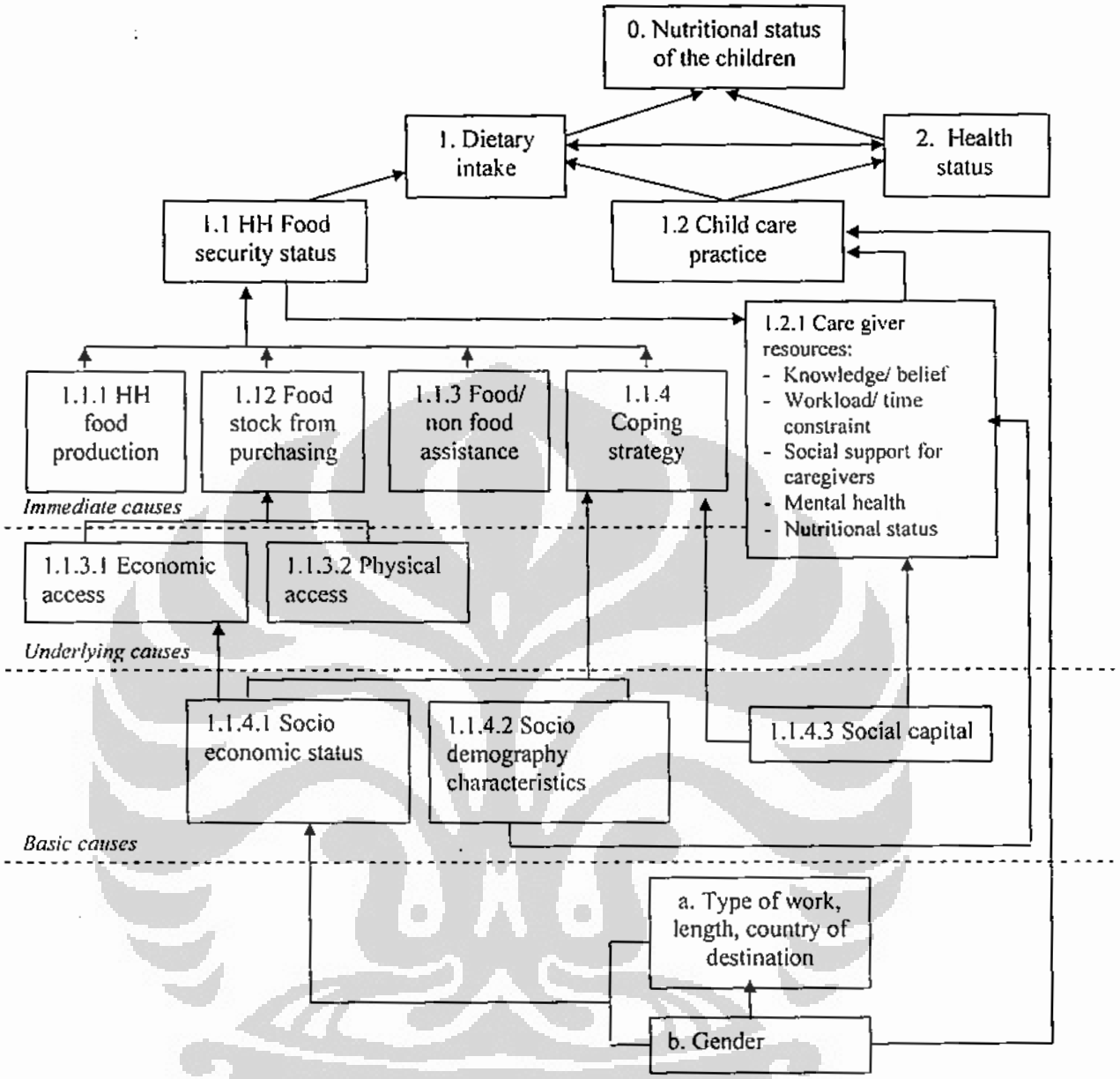

Figure 1.1. Conceptual Framework of the Study

I.5. Facts and Hypothesis Matrix

Table 1.1 below presents the facts and hypotheses between variables which studied in this study.

Table 1.1. Facts and Hypotheses Matrix

Variable 1	Variable 2	References
Nutritional status	Dietary intake	UNICEF, 1997
	Health status	UNICEF, 1997
Dietary intake	Household food security status	UNICEF, 1997
	Child care practice	UNICEF, 1997
	Health status	UNICEF, 1997
Household food security status	HH food production	IFPRI, 2006 (Bangladesh)
	Food stock from purchasing	IFPRI, 2006 (Bangladesh)
	Food/ non food assistance	IFPRI, 2006 (Bangladesh)
	Coping strategy	IFPRI, 2006 (Bangladesh)
Child care practice	Care giver resources	Engle, 1999
	Gender	Scalabrini, 2003 Kofman and Raghuram, 2007
Care-giver resources	Social capital	Misra, 2005 Levinson et al, 2002 (Bangladesh)
Food stock from purchasing	Economic access	IFPRI, 2006 (Bangladesh)
	Physical access	IFPRI, 2006 (Bangladesh)
Coping strategy	Socio economic status	Maharjan, 2006
	Socio demography characteristics	IFPRI, 2007
	Social capital	IFPRI, 2007
Economic access	Socio economic status	IFPRI, 2007
Socio economic status	Type of work, length, country of destination	UNICEF, 2005 (Filiphine) IFAD, 2008 (Filiphine) Maphosa, 2005 (Zimbabwe) Brown and Leeves, 2007 (Fiji and Tonga) Ananta, 2001 (Indonesia)
Type of work, length, country of destination	Gender	Jolly and Reves, 2005 (Brazil) Aphosa, 2005 (Zimbabwe)

PART 2
LITERATURE REVIEW

2.1. Food Security

2.1.1. Definition of Food Security and Household Food Security

Concepts of food security have evolved in the last thirty years. The term first originated in the mid-1970s, when the World Food Conference (1974) defined food security in terms of food supply - assuring the availability and price stability of basic foodstuffs at the international and national level: *"Availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices"*.

In 1983, FAO analysis focused on food access, leading to a definition based on the balance between the demand and supply side of the food security equation: *"Ensuring that all people at all times have both physical and economic access to the basic food that they need"* (FAO, 1983 in FAO, 2006)

The definition was revised to include the individual and household level, in addition to the regional and national level of aggregation, in food security analysis. In 1986, the highly influential World Bank Report on Poverty and Hunger focused on temporal dynamics of food insecurity. The report introduced the distinction between chronic food insecurity, associated with problems of continuing or structural poverty and low incomes, and transitory food insecurity, which involved periods of intensified pressure caused by natural disasters, economic collapse or conflict. This was complemented by Sen's theory of famine in 1981 which highlighted the effect of personal entitlements on food access i.e. production, labour, trade and transfer based resources. (FAO, 2006)

The widely accepted World Food Summit (1996) definition reinforces the multidimensional nature of food security and includes food access, availability, food use and stability. It has enabled policy responses focused on the promotion and recovery of livelihood options. Livelihood approaches are increasingly applied in emergency contexts and include the concepts of vulnerability, risk coping and risk management. In short, as the link between food security,

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starvation and crop failure becomes a thing of the past, the analysis of food insecurity as a social and political construct has emerged (Devereux 2000 in FAO 2006).

More recently, the ethical and human rights dimension of food security has come into focus. The Right to Food is not a new concept, and was first recognized in the UN Declaration of Human Rights in 1948. In 1996, the formal adoption of the Right to Adequate Food marked a milestone achievement by World Food Summit delegates. It pointed the way towards the possibility of a rights based approach to food security. (FAO, 2006)

2.1.2. Dimensions of Food Security

The widely accepted dimensions of food security points to the following dimensions of food security (FAO, 2006):

- ***Food availability***: The availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports (including food aid).
- ***Food access***: Access by individuals to adequate resources (entitlements) for acquiring appropriate foods for a nutritious diet. Entitlements are defined as the set of all commodity bundles over which a person can establish command given the legal, political, economic and social arrangements of the community in which they live (including traditional rights such as access to common resources).
- ***Utilization***: Utilization of food through adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being where all physiological needs are met. This brings out the importance of non-food inputs in food security.
- ***Stability***: To be food secure, a population, household or individual must have access to adequate food at all times. They should not risk losing access to food as a consequence of sudden shocks (e.g. an economic or climatic crisis) or cyclical events (e.g. seasonal food insecurity). The concept of stability can therefore refer to both the availability and access dimensions of food security.

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2.1.3. Food and Nutrition Security at Different Social Level

Availability, accessibility, utilization of food and stability of these three elements differ in their nature, causes and effects at macro, meso and micro level. For example, food may be available in a country but not in certain disadvantaged districts or among discriminated population groups. The seasonality of food availability and utilization, due to cyclic appearance of diseases, may be a rural but not an urban phenomenon. The categorical elements of food and nutrition security are relevant to all level of social organizations, from the individual and the household (micro level), to the community (sub-district, district and province) representing the meso level, the nation and the global level (macro level) (Gross et al, 2000).

2.1.4. Situation of Food Security in Indonesia

Indonesia has made significant strides in reducing poverty since the 1997-1998 economic crises and political transformation, and the El Nino drought which led to medium-term food insecurity and longer-term deterioration in nutritional status. However, over 50% of the population still lives on less than US$2 per day and an estimated 37 million people live below the poverty line (Indonesia uses its own National Poverty Line based on the per capita Rupiah value of an individual's need to fulfill minimum requirements for food, 2100 kcal/day. This was equivalent to 152.847Rp/capita/month in 2006). (WFP 2007)

Using integrated food security and humanitarian phase classification (IPC) approach which was developed by the Somalia Food Security Analysis Unit (FSAU), World Food Program (WFP) classified the majority of areas in Indonesia as generally food secure or chronically food insecure. South Sumatra, East Java, West, East and part of Central Kalimantan, the South Eastern Islands, West, Central and South East Sulawesi, Papoua, Maluku and eastern Indonesia in general are classified as chronically food insecure. While West and Central Java, Central Sumatra, East of Lampung, Banhka Belitung, South and East Kalimantan, North and South Sulawesi are classified generally food secure. Five key indicators were used to establish the classification: under-five children mortality rate,

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stunting, water/ sanitation, livelihood assets (female literacy, access to health, road access), and hazards. (WFP, 2007)

From the dimension of food supply and availability, Indonesia is self sufficient in food production. However, sustainability of production could become an issue: over-exploitation of land and water resources, intensive agriculture in some areas, slash and burn agriculture and deforestation make the topsoil prone to erosion. From accessibility dimension, poverty is a predominant factor that influences food security in Indonesia. Food is available but at a cost that increasing numbers of people find difficult to afford. According to the depth of poverty, the hotspots are clustered around Papua, Maluku, NTB, NTT and Aceh. Other areas of concern are Central and East Java, Sumatra Selatan and Bengkulu in Sumatra. When looking at the concentration of poor people, Java Island emerges as the real hotspot as 75 percent of Indonesia's poor population. Malnutrition rate in Indonesia also still high, reflecting the dimension of food utilization. Indonesia has high stunting rates. The national average is 37% (48% in rural areas). (WFP, 2007)

Although an area is categorized as food secure, it is not necessarily that the households are also food secure, since household food security is influenced by a many factors, including economic capacity of the household. In Indonesia, there was a tendency that economic crisis worsen food security of households, indicated by elevated number of food insecure households in 1999. After government's intervention through the policies in economic, food, etc, there was a tendency that the figure of household food insecurity was lower, although still high. (Aniningsih and Rachman, 2008). The trend of household food security proportion in Indonesia during 1996-2005 is shown in the table below:

Table 2.1. Proportion of Food Insecure Household in Indonesia, 1996-2005

Area	Proportion of food insecure household (%)			
	1996	1999	2002	2005
Indonesia	5.16	16.08	9.95	10.49
Urban	4.58	14.02	7.31	7.32
Rural	5.54	17.53	12.13	12.70
Java	5.98	16.05	9.00	9.16
Outside Java	4.49	16.10	10.94	11.73

Source: Statistical Bureau of Indonesia, SUSENAS 1996, 1999, 1002 and 2005 (re-analyzed by Aniningsih and Rachman, 2008)

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2.1.5. Determinant Factors of Household Food Security

Babatunde et al (2007) revealed that the following variables were determinant factors of household food security: total households income (the higher is the probability that the household would be food secure. Because with the increased in income, other things being equal, means increased access to food); quantity of food from own production (the higher the amount of food obtained from own production, the higher the likelihood of food security); educational status of household head (households with an educated head are more likely to be food secure than one with an uneducated head); and household size (as the household size gets larger, the probability of food security decreases. In other word, large size households are more likely to be food insecure than small size households).

Rose (1999) in a food security study among Hispanic revealed that home ownership is likely to be a good proxy for asset wealth. It correlates well with other more liquid assets, such as savings accounts. Multivariate models also show that higher rates of food insecurity are associated with Hispanic ethnicity, larger households or households composed of a single adult with children. Larger households require greater expenditures to meet consumption needs, and single parent households may have extra expenses associated with child care. Ethnicity may be related to food insecurity because language or other barriers to food shopping could limit choices and increase food costs.

Kaiser (2004) insisted that low income is one of the strongest predictors of food insecurity, but other factors independently associated with food insecurity include race/ethnicity, marital status, less than a 12th grade education and immigrant status. Several indicators of poor physical, mental and emotional health are also associated with food insecurity. Marco and Thorburn (2009) also found that households with lower incomes were more likely to experience food insecurity. While Indonesian Central Food Security Agency (2009) found that in general, more food insecure and vulnerable households were found among households without regular earnings. Food insecurity in rural and urban areas was mainly attributed to limited food access due to irregular and low remuneration cash income but also to limited ownership of assets and livestocks, to low access to land and staple food. As compared to food secure households, a high proportion

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of food insecure had poor housing conditions and access to improved water sources as well as to cooking fuels other than wood.

Other study on household food security among aboriginal households done by Willow et al (2008) showed that aboriginal households were more likely to have three or more children (14% v. 5 %), be lone-parent households (2 1% v. 5 %), not have home ownership (52% v. 31 %), have educational attainment of secondary school or less (43% v. 26 %), have income from sources other than wages or salaries (38% v. 29 %), and be in the lowest income adequacy category (33% v. 12 %). Factors contributing to food insecurity in a rural population including lack of savings, low educational level, low income, unexpected expenses, having to add $50 or more to food stamps to feed the household, and lower levels of food expenditures. Measures of wealth, such as having savings and owning a home, were related to decreased risk of food insecurity. Economic insecurity and limited income earning potential operationalized as being in a single-parent household and having a lower educational level were related to increased risk of food insecurity. Lower levels of food expenditures and having unexpected expenses were consistently associated with increased risk of food insecurity. Total annual food expenditures were strongly and consistently associated with food insecurity and food supplies. Food insecure households spent about 83 percent of what food secure households spent on food. Food expenditures accounted for 32 percent of total household expenditures for food insecure households compared to 28 percent for food secure households.

Household food production may also contribute to food security. Study by Modi et al (2006) showed that wild vegetables could contribute significantly to the dietary requirements of rural households at Ezigeni. Even during August and September, the contribution of wild vegetables to household nutrient requirements could be improved by increasing the total area used for collection, and by selecting the more nutritious species. (Modi et al, 2006). Other study by Marsh (1998) in Bangladesh showed that home gardening contributes to household food security by providing direct access to food that can be harvested, prepared and fed to family members, often on a daily basis.

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2.1.6. Coping Strategy

Hartog et al (2006) defined coping strategy as a strategy to resist a problematic situation, in this case, increasing food shortage. Households confronted with food shortage will make a cognitive appraisal of the encounter. The appraisal is based on two questions: what is at stake in this specific encounter, and what can be done, or what the possible options for coping with it are. The nature and duration of food shortage, determine hierarchy of copings strategies.

Table 2.2. Food Shortages and a Hierarchy of Coping Strategies by Households in Rural Areas

Type of coping	Specific actions
I. **Seasonal Shortages**	
Reduction of quantity	Measures
	Reduction in number of meals
	Reduction of portions
	Diluting meals with extra water
	Adding inedible substances to the meal
Adjustment of dietary habit	Consumption of unconventional foods
	Famine foods, e.g. plants and animals not eaten otherwise
	Consumption of sowing seeds
Using up cash	Purchase of food (at high price)
II **Shortage of a chronic nature**	
Selling of property	Selling jewellery, clothing (gender issue)
	Selling cattle, land (impoverishment)
Roaming for food	Lending money for foods (high interest)
	Borrowing food from other households
	Wandering in search for food in other areas
	Raids
Migration	Temporary migration to other areas
	Boarding out of children elsewhere
Religious Measure	Prayer and magic (e.g. rainmaker)

The choice of coping strategy depends on a household's endogenous and exogenous factors. A household's demographic structure, socio-economic status, social networks, intra-household dynamics, and recent crisis-coping strategies and consequences are considered the endogenous factors (Adams et al, 1998 in Usfar, 2002). Economic and political forces, climate, economy, culture, institutions, and infrastructure are among the exogenous factors (Usfar, 2002).

Kempson *et al.* (2003) identified multiple coping strategies applied by limited-resource individuals such as participating in federal and locally food programmes (i.e. food stamps, church dinners), exchanging resources (i.e. sell

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surplus food, sell food stamps for money), managing personal resources (i.e. budget, systematic payment of bills), having support system (i.e. borrow food or money, cook with other people, trust in God, identify someone to live with), increasing income (i.e. sell or pawn items, begging, gamble, sell one's blood), decreasing expenses (i.e. gardening), relocating to increase income and decrease expenses (i.e. have better employment opportunities, live in inexpensive housing) and shopping for low-cost and value foods (i.e. expired food, bulk food, items covered by coupons).

Typically, food insecure households employ any of four types of consumption coping strategy. First, households may change their diet (switching from preferred foods to cheaper, less preferred substitutes). Second, to the household can attempt to increase their food supplies using short-term strategies that are not sustainable over a long period (borrowing, or purchasing on credit; more extreme examples are begging or consuming wild foods, or even seed stocks). Third, households can try to reduce the number of people that they have to feed by sending some of them elsewhere (anything from simply sending the kids to the neighbour's house when they are eating, to more complex medium-term migration strategies). Fourth, and most common, households can attempt to manage the shortfall by rationing the food available to the household (cutting portion size or the number of meals, favouring certain household members over other members, skipping whole days without eating, etc.). (Maxwell et al, 2003)

Household and individual may have different responses to food insecurity, including short-term dietary changes by eating food that are less preferred; increased reliance on wild food; reducing or rationing consumptions; skipping meals; depletion of stores; borrowing food or money to buy food; altering household composition; altering intra-household distribution of food such as maternal buffering; short term alterations in crop and livestock production pattern; pledging; mortgaging and sales of assets; and distress migration. There are also more drastic measures such as stealing food or abandoning children. These strategies can be set apart as coping strategies and adaptive strategies. The former are a set of fall-back mechanism to deal with short-term insufficiency of food while the later involves making long-term or permanent changes to the way in

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which household and individuals acquire food or income. In either case, they can be used as direct indicators of food insecurity facing the households or individuals. (Chang, 2005)

Seasonal migration is the major coping strategy for food security in landless households. Generally, the households adopt coping strategies in the early stages of food insecurity include the migration of household member to look for work, searching for wild foods, and selling non-productive assets. In this study, people switch to cheaper, less desirable and perhaps less nutritious foods in the early stages of food insecurity. The migration for working in other places is used when they face a longer period of food insecurity and are in high indebtedness. (Kyaw, 2009)

Coping strategy may become an indicator of food security. Usfar et al (2007) in a study in Indonesia found that for a given coping approach, as food security status becomes more severe, the higher the percentage of households employing it, and for a given food security status, percentage of households was also higher among lower-degree and less among higher-degree coping.

2.1.7 Household Food Security and Dietary Intake

Kirkpatrick and Tarasuk (2008) in their study about food security and nutrient adequacy among Canadian found that poorer dietary intakes were observed among adolescents and adults in food-insecure households and many of the differences by food security status persisted after accounting for potential confounders in multivariate analyses. Higher estimated prevalence of nutrient inadequacy were apparent among adolescents and adults in food-insecure households, with the differences most marked for protein, vitamin A, thiamin, riboflavin, vitamin B-6, folate, vitamin B-12, magnesium, phosphorus, and zinc. Among children, they noted few differences in young children's nutrient intakes in relation to household food security status, but those in food insecure subgroups consumed fewer servings of fruits and vegetables and milk products, suggesting some constraints on their food intakes. Among older children in food-insecure households, there were some indications of lower nutrient intakes. A notable finding among children is the positive association between household food insecurity and energy density among some subgroups, which could impact weight

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status over time if household food insecurity and its associated dietary patterns are chronic experiences. This study indicates that for adults and, to some degree, adolescents, food insecurity is associated with inadequate nutrient intakes.

Isanaka et al (2007) examined the relation between child food insecurity and dietary intake in Bogota, Columbia, and found that children from insecure households had lower intake of animal protein and snack foods compared with children from secure households. However, they discussed inconsistency with other studies, such as in Trinidad, that food insecurity was not associated with sweets or fast food consumption in adults, or with energy density in US. They argue that the inconsistency in the literature may be due to variation in the relative cost of snack foods and the coping strategies adopted in different populations, and emphasize, based on their study result, that differences in food intake by levels of food insecurity will depend on the severity of food insecurity, the relative cost, availability, and desirability of alternative food items, and available coping strategies.

Regarding intake of specific food groups, studies also found that food security was associated to fruits and vegetables intake. In a study from the US, Casey et al (2001) found that children from low-income food insufficient families consumed less fruit. Other consistent finding was found by Tarasuk (2001) that Canadian women from food insecure households reported lower consumption of vegetables, fruit, and meat than women from food secure households.Gulliford et al (2003) in Trinidad and Tobago found that food insecurity was associated with lower consumption of fruit and vegetables in adults.

While most studies found significant association between household food security and dietary intake among adults, some studies did not find this significant association between household food security and dietary intake among children. For example, study done by Rose and Oliveira (1997) in United States found that for adult women, food insufficiency was significantly associated with low intake of eight nutrients, including energy, magnesium and vitamin A, E, C, and B6, however, they did not find significant association between household food insufficiency and low intakes among preschoolers. Among other explanations,

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they suggest that women may be giving up food for themselves in order to ensure adequate consumption by their children.

2.1.8 Household Food Security and Child Nutritional Status

In a study done by Isanaka et al (2007) in Bogota Columbia, child food insecurity was found as a significant predictor of child underweight but not of stunting or overweight. Child food insecurity is very severe by definition and likely consists of shortages of even the least expensive, energy-dense foods that might lead to overweight. Food-insecure children, therefore, may be more likely to have very low total energy intake, which leads to under- rather than overweight. Consistent finding also found by in a study to adults in Trinidad, which showed that food insecurity was associated with underweight but not with present obesity.

2.1.9. Instruments Related to Household Food Security

2.1.9.1. Instrument to Assess Household Food Security

a. US Household Food Security Survey Module (US-HFSSM)

US-FSSM was developed by United State's Department of Agriculture USDA. It was first developed in 1997, and has been revised in 2000. The instrument consists of a set of questionnaires related to food security. The set of food security questions included in the core survey module can be combined into a single overall measure called the food security scale. This is a continuous, linear scale which measures the degree of severity of food insecurity/hunger experienced by a household in terms of a single numerical value.

There are 4 categories of household food security using US-FSSM:

1. Food secure: households show no or minimal evidence of food insecurity
2. Food insecure without hunger: food insecurity is evident in household members' concerns about adequacy of the household food supply and in adjustments to household food management, including reduced quality of food and increased unusual coping patterns. Little or no reduction in members' food intake is reported
3. Food insecure with hunger (moderate): food intake for adults in the household has been reduced to an extent that implies that adults have repeatedly experienced the physical sensation of hunger. In most (but not

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all) food-insecure households with children, such reductions are not observed at this stage for children.

4. Food insecure with hunger (severe): at this level, all households with children have reduced the children's food intake to an extent indicating that the children have experienced hunger. For some other households with children, this already has occurred at an earlier stage of severity. Adults in households with and without children have repeatedly experienced more extensive reductions in food intake.

A household is classified into one of the food security status-level categories on the basis of its score on the food security scale, while the household's scale score is determined by its overall pattern of response to the set of indicator questions. Households with very low scale scores are those that report no, or very limited, food-insecurity or hunger experiences. These households are classified as food secure. At the other extreme, households with very high scale scores are those that have reported a large number of the conditions and are classified as food insecure with hunger (severe). The food security scale represents the condition of *household members as a group*, and not necessarily the condition of any particular household member. In general, conditions of food insecurity are believed to affect all household members, although not necessarily in the same way. When the household is reporting conditions of food insecurity severe enough to provide clear evidence of hunger for adults, this in itself does not indicate that children in the household are hungry, especially if they are young children. Thus, in households with children that are classified "food insecure with hunger (moderate)," the food security measure shows clear evidence of adults' hunger but does not *necessarily* show evidence of children's hunger. Consequently, the only inferences about children's hunger that can be made confidently from the uni-dimensional household-level food security measure is that children in food-insecure households are at *significantly higher risk* of hunger than other children. and that this risk rises sharply as the severity level of the food insecurity experienced in the household rises. (USDA, 2000)

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Usfar et al (2006) analyzed food security outcome of several surveys in Indonesia (two urban and four rural areas in Indonesia) to assess the applicability of US-FSSM for measuring household food-insecurity in Indonesia, and found that household food security status measured by the US-FSSM was in line with coping strategy indicators. For a given coping strategy, as food-security status becomes more severe, the higher the percentage of household employing it. And for a given food security status, percentage of households was higher among lower-degree and less among higher-degree coping.

b. Household Food Insecurity Access Scale

The Household Food Insecurity Access Scale (HFIAS), which is an adaptation of the approach used to estimate the prevalence of food insecurity in the United States (U.S.) annually (US FSSM). The method is based on the idea that the experience of food insecurity (access) causes predictable reactions and responses that can be captured and quantified through a survey and summarized in a scale.

The recommended questionnaire format for the HFIAS can be found in Section 4. The questionnaire consists of nine occurrence questions that represent a generally increasing level of severity of food insecurity (access), and nine "frequency-of-occurrence" questions that are asked as a follow-up to each occurrence question to determine how often the condition occurred. The frequency-of-occurrence question is skipped if the respondent reports that the condition described in the corresponding occurrence question was not experienced in the previous four weeks (30 days). Some of the nine occurrence questions inquire about the respondents' *perceptions* of food vulnerability or stress (e.g., did you worry that your household would not have enough food?) and others ask about the respondents' *behavioral responses* to insecurity (e.g., did you or any household member have to eat fewer meals in a day because there was not enough food?). The questions address the situation of all household members and do not distinguish adults from children or adolescents. All of the occurrence questions ask whether the respondent or other household members either felt a certain way or performed a particular behavior over the previous four weeks.

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The generic occurrence questions, grouped by domain, are:

1. Anxiety and uncertainty about the household food supply:
   - Did you worry that your household would not have enough food?
2. Insufficient Quality (includes variety and preferences of the type of food):
   - Were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?
   - Did you or any household member have to eat a limited variety of foods due to a lack of resources?
   - Did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?
2. Insufficient food intake and its physical consequences:
   - Did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?
   - Did you or any household member have to eat fewer meals in a day because there was not enough food?
   - Was there ever no food to eat of any kind in your household because of a lack of resources to get food?
   - Did you or any household member go to sleep at night hungry because there was not enough food?
   - Did you or any household member go a whole day and night without eating anything because there was not enough food?

Using this instrument, household are categorized into four groups: food secure, mildly food insecure, moderately food insecure, and severely food insecure (FANTA, 2007)

2.1.9.2. Household and individual dietary diversity

Household dietary diversity - the number of different food groups consumed over a given reference period - is an attractive proxy indicator for the following reasons:

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- A more diversified diet is an important outcome in and of itself.
- A more diversified diet is associated with a number of improved outcomes in areas such as birth weight, child anthropometric status, and improved hemoglobin concentrations.
- A more diversified diet is highly correlated with such factors as caloric and protein adequacy, percentage of protein from animal sources (high quality protein), and household income. Even in very poor households, increased food expenditure resulting from additional income is associated with increased quantity and quality of the diet.
- Questions on dietary diversity can be asked at the household or individual level, making it possible to examine food security at the household and intra- household levels.
- Obtaining these data is relatively straightforward. Field experience indicates that training field staff to obtain information on dietary diversity is not complicated, and that respondents find such questions relatively straightforward to answer, not especially intrusive nor especially burdensome. Asking these questions typically takes less than 10 minutes per respondent.

To better reflect a quality diet, the number of different *food groups* consumed is calculated, rather than the number of different *foods* consumed. Knowing that households consume, for example, an average of four different food groups implies that their diets offer some diversity in both macro- and micronutrients. This is a more meaningful indicator than knowing that households consume four different foods, which might all be cereals. The following set of 12 food groups is used to calculate the HDDS:

A. Cereals

B. Root and tubers

C. Vegetables

D. Fruits

E. Meat, poultry, offal

F. Eggs

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G. Fish and seafood

H. Pulses/legumes/nuts

I. Milk and milk products

J. Oils/fats

K. Sugar/honey

L. Miscellaneous

While the individual dietary diversity score (IDDS) is used as a proxy measure of the nutritional quality of an individual's diet, the HDDS is used as a proxy measure of the socio-economic level of the household. The differences in the list of food groups used to construct the HDDS and IDDS (e.g. for women or children) reflect these different objectives.

Individual Dietary Diversity Score (IDDS) is often used as a proxy measure of the nutritional quality of an individual's diet. This use is different from the use described in this guide – HDDS as a proxy measure of household access to food. While the questions used to collect data on dietary diversity for both uses are similar, there are some important differences that are reflective of the different objectives. For example, "sugar/honey" is included as a food group for HDDS. As an indicator of socio-economic change, the inclusion of sugar or honey in a household's diet tells us something about their ability to access/purchase food. In contrast, sugar and honey are not included as a food group in the list of food groups included in a IDDS indicator for children, because this food group is not an important contributor to the nutritional quality of a child's diet. The table below provides a comparison of the food groups included in the HDDS indicator and the IDDS (children). Note first of all that the range for each measure is different (0-12 vs. 0-8). Secondly, while the IDDS (children) includes a smaller number of food groups, the questionnaire itself includes a great deal more detail that is eventually combined into the 8 food groups when calculating the IDDS (children) indicator. (FANTA, 2006)

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Table 2.3. Food groups for HDDS and IDDS

HDDS food groups (Score: 0-12)	IDDS food groups (Score: 0-8)
Cereals	Grains, roots and tubers
Roots and tubers	Vitamin A- rich plant food
Vegetables	Other fruits or vegetables
Fruits	Meat, poultry, fish, seafood
Meat, poultry, offal	Eggs
Eggs	Pulses/ legumes/ nuts
Fish and seafood	Milk and milk products
Pulses/ legumes/ nuts	Foods cooked in oil/ fat
Milk and milk products	
Oils/ fats	
Sugar/ honey	
Miscellaneous	

2.2. Labor Migration and Remittance

2.2.1. Definition

Economic reason seemed to be the main reason of labor migration. Study about migration in South Africa by Maphosa (2005) revealed that the main reasons for migrating to South Africa were economic. More than half of the respondents cited unemployment as the reasons why people migrate to South Africa. Other factors are peer pressure and better pay.

According to Maphosa (2005), there is no consensus on the definition of "remittances". Many definitions confine remittances to financial transfers, or "money" sent by migrant workers to their relatives and communities back home. While the term "remittances" is usually used in reference to cash transfers only, remittances can also be in-kind. Adams Jnr. (1991) adopts this inclusive definition and defines remittances as "money and goods" that are transmitted to the households back home by people working away from their origin communities. The definition may also even broader, includes monetary or cash transfers and other transfers such as consumer goods, capital goods and skills and technological knowledge.

Remittances can be formal or informal depending on the type of channel through which they are transferred. Formal remittances refers to remittances sent through official means such as bank transfers and money transfer organizations while informal remittances are those that are sent through unofficial channels such as private money couriers, through friends and relatives or delivered home by the migrants themselves (McKinley 2003; Orozco, 2000; Myers, 1988 from Maphosa,

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2005). The channel for sending remittances depends on a number of factors such as the existence of banking and other financial institutions, the speed, efficiency and security of the system as well as the educational status of the sender and the recipient. Undocumented migrants are less likely to send their remittances through official cannels than documented migrants.

Remittances can be sent individually or collectively. As opposed to individually sent remittances, collective remittances are sent by groups of migrants usually as members of arrangements or associations commonly referred to hometown associations. Hometown associations are groups of migrants from particular communities who come together to pool resources in order to help the development of their home communities (Maphosa, 2005)

2.2.2. Utilization of Remittance and Impact of Remittance on Livelihood

Remittances are an important source of income for households left behind by the migrant workers. Remittances are used mainly to provide for households' basic needs. Sander and Maimbo (2003) describe investment in education, heath care and nutrition as investment in human capital. Almost all the remittance receiving households mentioned food as one of the uses of remittances. School fees and health care were also mentioned by the majority of the households as some of the uses of cash remittances. The ADB Southeast Asian Workers' Remittance Study shows that the top 3 spending categories from remittances are food, house and education. It also finds that 48% of the Indonesian respondents use remittances to repay loans. Indonesians in Japan more often mentioned education, followed by savings and food as the most important remittance expenditures. Indonesians remitting from Hong Kong, China, meanwhile, most frequently mentioned savings, followed by education and business investments. Remittances are an important source of financial capital for households, ensuring that they can meet their basic needs, and in some cases leading to improved livelihoods. (ADB, 2006)

In a study in Senegal, Diatta and Mbow (1999) found that remittances were a substantial source of revenue for families with migrant members and were also used to promote development in migrants' home communities. Koc and Onan

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(2001) examined the impact of remittances on the standard of living of left-behind families in Turkey and found that remittances have a positive effect on household welfare. Their study shows that remittances have both direct and indirect income effects, which potentially have important influences on production, income inequality and poverty, at least at the local level.

It is well documented that remittance contributes to the improvement of livelihood. These represents some of the positive ways that earnings and remittances from migration can strengthen livelihoods: investment in land, or land improvements, including reclaiming previously degraded land (Tiffen *et al*, 1994); purchase of cash inputs to agriculture (hired labour, disease control etc), resulting in better cultivation practices and higher yields (Carter, 1997); investment in agricultural implements or machines (water pumps, ploughs etc); investment in education, resulting in better prospects for the next generation (Francis & Hoddinott, 1993; Hoddinott, 1994); investment in assets permitting local non-farm income to be generated (bicycle taxi, motorbike, milling machine, kiosk etc.) (Ellis, 2003).

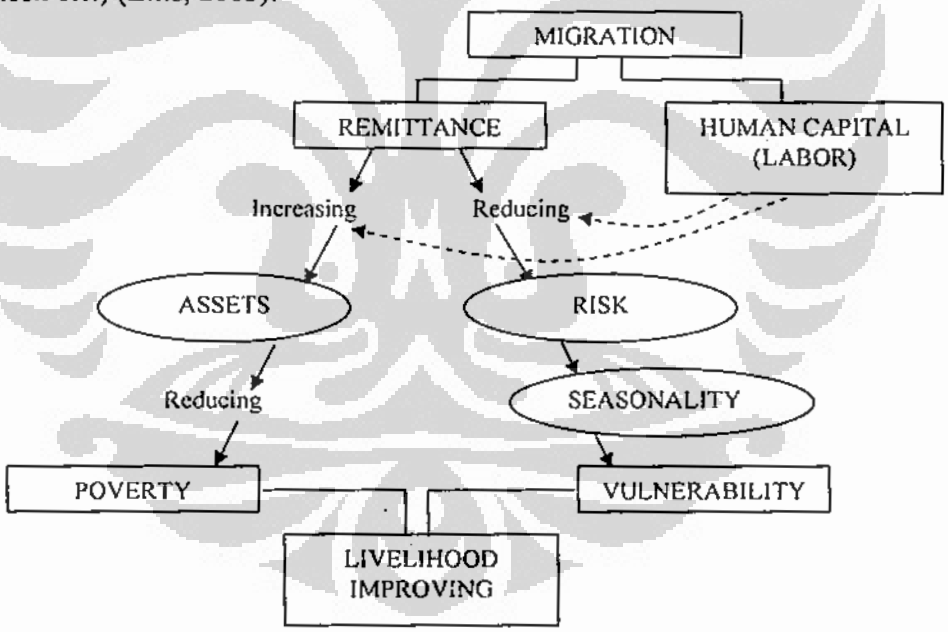

Figure 2.1. Positive Link Between Migration and Improving Livelihoods (Ellis, 2003)

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Migration is seen to contribute positively to the achievement of secure livelihoods, and to the expansion of the scope for poor people to construct their own pathways out of poverty. It does this by ameliorating seasonality and risk, reducing vulnerability, enabling investment in a range of livelihood assets (land improvements, education, livestock etc.), and providing the poor with more of a chance to gain a first purchase on virtuous spirals out of poverty. However, its potential to contribute in all these ways is very considerably curtailed by the policy environment that typically surrounds it (Ellis, 2003).

De Bruyn (2006) had different point of view on seeing remittance. Remittances may result in positive as well as negative impacts. On the positive side, remittances allow families to meet their basic needs; open up opportunities for investing in education, health care, etc.; loosen up constraints in the family budget to invest in business or to save; are a kind of emergency resource; provide a social security for the elderly; and can boost the local economy. However, it may also have negative impact, which is a possible dependency on this money flow and inflation.

2.3. Child Care and Resources for Care

2.3.1. Definition and Indicators

Child care is a complex set of behaviors that range from child feeding practices, to responses that promote a safe and healthy environment for the child and provide adequate health care, to psychosocial interactions and emotional support (Engle et al, 1996)

Child survival, nutrition, health, and development all depend on household food security, on a healthy environment and available health services, and on the care available for children and women (UNICEF 1990 from Arimond and Ruel, 2002). An "extended" model of care gave a more detailed articulation of both care practices and important household- and community-level resources for care. Relevant behaviors were categorized into (1) care for pregnant and lactating women; (2) breastfeeding and the feeding of very young children; (3) psychosocial stimulation of children and support for their development; (4) food preparation and food storage behavior; (5) hygiene behaviors; and (6) care for children during illness, including care seeking behavior (Engle 1992). Resources

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for care were summarized into six major categories: (1) education, knowledge, and beliefs; (2) health and nutritional status of the caregiver; (3) mental health, lack of stress, and self-confidence of the caregiver; (4) autonomy, control of resources, and intra-household allocation; (5) workload and time constraints; and (6) social support from family members and the community (Engle, Menon, and Haddad 1996; Jonsson 1995). The extended model provided a unifying and hierarchical framework for research seeking to illuminate the relative importance and specific role of various care practices and resources for care (Arimond and Ruel, 2002).

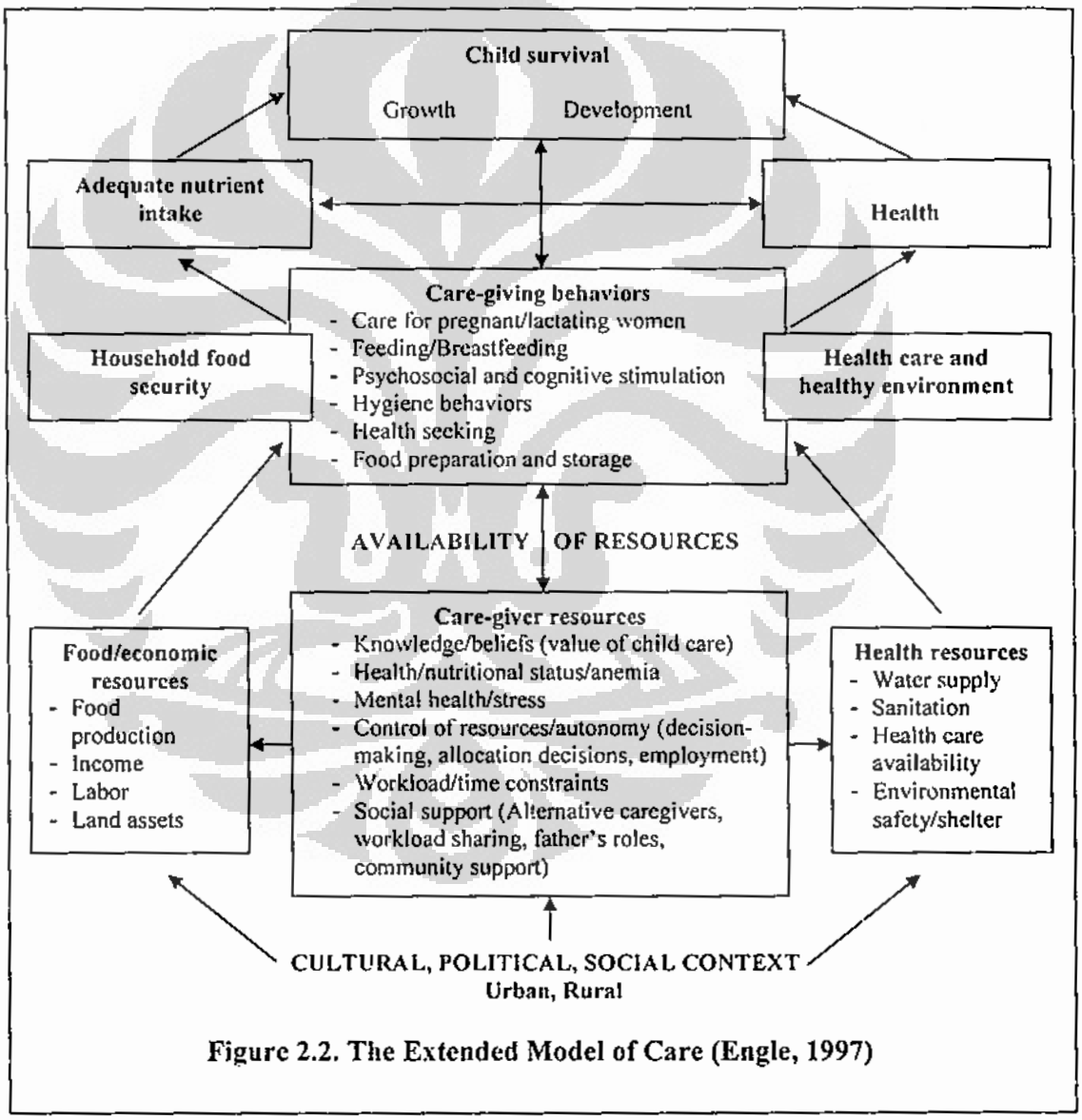

Figure 2.2. The Extended Model of Care (Engle, 1997)

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Child feeding, which includes breastfeeding and complementary feeding practices, is comprised of various dimensions, namely, the type, the quality, the texture and the nutrient density of food, the frequency of feeding, and the diversity of the diet. These various dimensions are difficult to combine into one indicator and thus, most research on feeding practices has focused on only one or two dimensions at a time. Appropriate child feeding practices are age-specific, and they are also defined within very narrow age ranges. Thus, in order to characterize the adequacy of child feeding practices, one needs to take into account the various dimensions of child feeding, as well as the age-specific requirements of the child within short time periods. The complexity of this task probably explains why so little is known about the association between different feeding patterns and child outcomes at particular ages (Arimond and Ruel, 2002).

2.3.2. Child Care and Child Dietary Intake

Resources for care are things which are needed to do better child care practice, including feeding practice. Mental health of the caregiver is one of resources for care which may influences child care practice. Study done by Hurley et al (2007) in United State found that symptoms of maternal stress, depression or anxiety are significantly associated with maternal reports of non responsive feeding style.

2.3.4 Child Care and Nutritional Status

Study by Begin et al (1999) in Sahelian rural Chad showed that among all variables examined based on the extended UNCEF model of care, those reflecting psychosocial characteristics of caregivers and socioeconomic status of households were the best predictors of child height for age. Maternal height, caregiver workload and income, although showing some association, were not significant predictors of height for age when the other factors were controlled. Caregiver autonomy and satisfaction with life, as well as social support in family influenced child height for age independently from household socio-economic factors.

Tange et al (1997) through their study in Bangladesh found that though increasing income is associated with better child nutrition, at the two tail ends of

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the child nutrition distribution, income does not appear to be a major factor. The worst nutrition was not in the poorest households and the best nutrition was not in the most well-off. The group of negative deviant children were from households with significantly higher income than the median group of children. This is in contrast to results from Tamil Nadu, India, where a lower wealth status was found to be associated with negative deviance (Shekar, Habicht, and Latham 1992 from tange et al, 1997).

Caregiver's mental health is known as one of resources for child care which may influence child nutritional status. Study done by Surkan et al (2008) in Brazil found that maternal depressive symptoms, but not self efficacy, were associated with short stature in children aged 6 to 24 months after adjustment for known predictors of growth. Another study done by Harpham et al (2005) in four developing countries (India, Vietnam, Peru and Ethiopia) showed that there was a relation between high maternal common mental disorders and poor child nutritional status in India and Vietnam.

The caregiver itself also may influence nutritional status of the children. A study done by Santos et al (2004) in Mexico found that the greatest protective effect of stunting in children aged 6-23 months was found in children cared exclusively by their mothers. Another study in rural Gambia showed a clear beneficial effect of maternal grandmothers on both nutritional status and child mortality of under-five children, while the presence of male or patrilineal kin does not appear to improve the nutrition and survival of under-five children (Sear et al, 2000).

2.5. Gender Issue in Labor Migration, Food Security, and Child Care Practice

2.5.1. Gender and Remittance

Male and female remitters may have different preferences about the type of expenditures that their remittances should support. Study in Mexico by De La Cruz (1995) revealed that male migrants, to a greater degree than female migrants, intend to return to Mexico to live permanently in the future; for this reason, their remittances are directed towards personal investments such as land, housing, agriculture production and cattle. Female migrants also remit for investment

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purposes, but it appears that their investments are more targeted to support family with education and business opportunities, rather than personal educational and business investments. Along the lines of these findings, a recent descriptive study by the IOM, using data from Moldova, finds that substantially more women than men remit funds to pay for education, health, furniture, and loans (IOM 2005). Female migrants from Moldova stated that they intend their remittances to be spent on current expenses (food, clothes, commodities and household equipment) and special expenses (education, health, furniture, and loans); male migrants, on the other hand, prefer to direct their remittances to investment in housing, cars and other consumer durables (IOM 2005).

Regarding expenditure on health care, various studies conclude that women on average spend a greater part of their income on health care for children (and food), than men. For example, Thomas (1994) finds that control of non-labor income by women is associated with increased expenditures on health care in Brazil, Ghana and the United States. In the case of Brazil, Thomas (1990) finds that the marginal impact of female-controlled income on child survival is 20 times that of male-controlled income

2.5.2. Gender and Food and Nutrition Security

Since there is culturally constructed roles that men and women play to influence the way in which they invest their remittances, household food security may also influenced by gender out migration (Lemke, 2003). For some households, remittances can be an important contribution to household income, and depending on the particular circumstances, can help the household achieve a higher level of food security (Horenstein, 1989). Gender affects the amount and frequency of the remittances that migrants send, the way in which these are spent or invested, as well as their potential or limitations for contributing to household food security and local development in rural communities. Studies discovered a tendency amongst female migrants abroad to select another woman to receive and manage the remittances sent back to the household. This decision is often based on the belief that female remittance recipients will use these resources for the collective good of the household, whereas their male counterparts are more likely

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to mismanage them or spend them on their own personal needs and desires (UN-INSTRAW, 2006). This belief is supported by empirical evidence suggesting that placing economic resources –such as remittances in the hands of women increases food security and overall welfare of the household (UN-INSTRAW, 2008). However, contradictory finding was shown by Lemke (2002) on the study of gender relation and food security among black south African household, where households attached to migrant men have about three times the income of households attached to migrant women, and households attached to migrant men are more food secure (26% vs 10%), as was to be expected as a result of much higher household incomes available to them. Women generally devote a greater share of their income and earnings to family needs than do men. Cash income that is controlled by women is more likely to be spent on children's health and nutrition, whereas income that is controlled by men is likely to go for alcohol and other consumer products (Yotopoulos, 1996).

Although some sources suggest that increases in women's (usually mothers') control over income universally benefits children, the actual evidence from developing country research is more nuanced. Numerous studies have found that increases in women's income share are associated with a variety of improved child outcomes or with spending on goods likely to benefit children. For example, income in mothers' control has been found to be associated with improvements in child health in Brazil (Thomas, 1990) and with increased spending on nutrients, health and housing in rural Mexico (Djebbari 2005). As far as expenditure on nutrition is concerned, Haddad and Hoddinott (1995), using the Cote d'Ivoire Living Standards Survey, show that share of income controlled by females has a positive and significant effect on the budget share expenditure on food. They found that the wife's income share had a positive effect on the budget share allocated to food, and a negative effect on the budget share for clothing, alcohol, and cigarettes. Drawing on Demographic and Health Survey data from Bangladesh, India, Nepal and Pakistan, Smith and Byron (2005) conclude that increases in women's decision-making power relative to men are associated with improved nutritional well-being of children. While Duflo (2003) found that increases in grandmothers' income could also be important: in South Africa, an

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increase in the old age pension resulted in an improvement in the health and nutrition of girls, but only when the pension was in grandmothers' rather than grandfathers' hands.

A key finding of the intrahousehold expenditure literature is that increases in resources controlled by women raise allocations toward education, health and nutrition (Quisumbing 2003). Quisumbing and Maluccio (2000), using data from Bangladesh, Ethiopia, Indonesia and South Africa, conclude that the most consistent effect across countries of an increased percent of resources controlled by women at the time of marriage is an increase in expenditure shares towards education. This finding holds for all countries except for Ethiopia. Similar studies in rural Bangladesh find that an increase in women's assets has a positive effect on expenditure on children's clothing and education (Hallman 2000; Quisumbing and de la Brière 2000). This behavior by women may be eminently rational: since women often marry at an earlier age than men, and therefore are expected to live longer than men with their children. Consequently, they choose to invest in education of their children, as they rely on them more than men for old age support (Quisumbing and Maluccio 2000). Moreover, Guyer (1997) claims that in a society where assets that enable consumption-smoothing are controlled by men, investments in human capital may be an attempt for females to smooth consumption over time.

Regarding gender influence on money allocation, Kenney (2008) noted that mothers are not inherently more likely to spent on food (or education) than fathers. Instead, culture cultures assign responsibility for different household domain to women or men, and those gendered social arrangements influence how money is used. In United States, women bear great responsibility for food than men, and this is especially true in household with children. As a result, when mother control money, they are more likely than fathers to spend it on food, and their children are less likely to experience food insecurity.

2.5.3. Gender and Child Care Practice

Evidence from Bryant's study (2005) about Indonesian, Thai and Filipino children left behind by their migrated parents suggests that these children do not,

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on average, suffer greater social and economic problems than their peers. This is because migration is generally an effective way for households to alleviate poverty, and because extended families help fill the gaps left by the absent parents. There may, nevertheless, be subgroups of children who are adversely affected by migration. It is plausible, for instance, that migration may affect young children differently from other groups. A study by Scalabrini (2003) reveals that there is a variation in terms of gender roles when women migrate compared to men. When men migrate, the left behind wives assumed more responsibilities with their dual roles as fathers and mothers. But when women migrate, it appears that families go through more adjustments, since men are usually not ready to take up care giving.

Cultural context, value and norms have a great influence on gender perspective in child caring. In Indonesia, the traditional Javanese family system is based on the nuclear family structure. Once married, a couple might live with either the husband's or the wife's family (usually the wife's family), but they live on their own as soon as they can support themselves. The husband is the head of the family, and the wife is the household manager, responsible for household daily activities (Megawangi, 1997). In the domestic domain, female autonomy also has been widely recognized. The Javanese believe that husband and wife should work together as a team. It was the wife, for example, who had control of family finances, and hence made many of the family decisions (Hull, 1982 from Megawangi, 1997. Furthermore, equal inheritance and women's control of property give her considerable bargaining power in the family.

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PART 3
MATERIALS AND METHODS

3.1. Variable Indicator Matrix

The main variable in this study, household food security status, used indicator of household food security classification by USDA, which assessed using US-FSSM questionnaire. Detailed variables, the indicators, methods of assessment and the reference are shown in the table 3.1 below.

Tabel 3.1. Variable Indicator Matrix

No	Variable	Indicators	Methods	References
0.	Nutritional status of children	• WHZ score. • WAZ score. • HAZ score. • BAZ score	Anthropometry assessment	Gibson, 2005
1	Dietary intake	• Total energy, macro and micro nutrient intake • % adequacy of energy and protein to RDA • Dietary Diversity Score	Single 24 hr recall Interview using DDS questionnaire	Gibson, 2005 FANTA, 2008
2	Health status	• Presence of diarrhea in the last 2 weeks • Presence of ARI in the last 2 weeks	Interview by using structured questionnaire	UNICEF, 2000
1.1	Household food security status	Household food security status classification using instrument US FSSM, which categorized into: 1. Food secure 2. Food insecure without hunger 3. Food insecure with moderate hunger 4. Food insecure with severe hunger	Interview by using structured questionnaire	USDA, 2000
2.2	Child care practice	• Feeding practice • Health seeking behavior • Hygiene and sanitation	Interview using structured questionnaire Observation	CORE, 2003 Pelto, 2003 Fahmida, 2003 Engle, 1997

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Tabel 3.1. Variable Indicator Matrix (continued)

No	Variable	Indicators	Methods	References
1.1.1	Household food production	• Type of food crops and livestock produced at household level • Utilization of food crops and livestock produce	Interview by using structured questionnaire	Gross et al, 1997
1.1.2	Food stock from purchasing	• Frequency of purchasing food • Food available in the household yesterday • Existence of inadequate food during different months	Interview by using structured questionnaire	Benson, IFPRI, 2003
1.1.3	Food/ non food assistance	• Type of subsidies received in the last 6 month • Source of subsidies received in the last 6 month • Frequency of subsidies received in the last 6 month	Interview by using structured questionnaire	Bardosono, 2003; Usfar, 2003
1.1.4	Coping strategy	Coping strategy index	Interview by using structured questionnaire	FAO, 2003
1.2.1	Resources for care:			
	• Knowledge/ belief on proper care	• Knowledge and belief on food, nutrition, health related to care	Interview by using structured questionnaire	Engle, et al, 1999
	• Workload/ time constraint	• Recalled time spent on work and child care • Existence of somebody to help doing housework • Feeling overburden of daily domestic work • Number of children cared by the caregiver	Interview by using structured questionnaire	Engle et al, 1999
	• Social support for caregiver	• Availability of alternate caregivers • Availability of emotional support for caregivers	Interview by using structured questionnaire	Engle et al, 1999
	• Mental health	• Mental health status measured using Beck's Depression Inventory scale	Interview by using BDI questionnaire	Ruel et al, 2003
	• Nutritional status	• BMI	Anthropometry	Engle et al, 1999
1.1.2.1	Economic access to food	Food purchasing power/ percent of income allocated for food	Interview using structured questionnaire	Benson, IFPRI, 2003

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Tabel 3.1. Variable Indicator Matrix (continued)

No	Variable	Indicators	Methods	References
1.1.2.2	Physical access	• Availability of market • Distance between the house and the market	Interview using structured questionnaire	Rue et al, 1998 Hahn, 2000
1.1.4.1	Socio economic status	• Household income per month • Food and non food expenditure • Remittance • Assets ownership • Housing condition	Interview using structured questionnaire Observation	Gross et al, 1997
1.1.4.2	Socio demographic characteristics	• number of HH member and under-five children • Type of the family (nuclear/ extended) • Head of the household • Education of HH member • Occupation of HH member • Number of HH member earn regular income • Individual characteristic of the migrant worker (age, education, initial occupation, religion)	Interview using structured questionnaire	UNICEF 2001, in Valientes, 2004
1.1.4.3	Social capital	• Participation in the community association, such as labor union, women association, credit and saving group, etc. • Social capital index	Interview using structured questionnaire	Benson, IFPRI, 2003 Martin KS, 2003
1.1.4.1.1	Labor migration	• Type of work • Country of destination • Length of work	Interview using structured questionnaire	Firdausy, 2005 Djelantik, 2008
1.1.4.1.2	Gender	Sex of the migrant worker	Interview using structured questionnaire	Mc. Kinley, 2003 Samal, 2006 Maphosa, 2005

3.2. Area and Subject of the Study

The study was conducted in Tulungagung District, East Java Province, Indonesia. East Java was purposively selected due to rapid increment of migrant worker in last 3 years (Disnaker Jatim, 2007). In 2008, the number of migrant workers from BNP2TKI Surabaya (representing East Java) was the second highest after BNP2TKI Jakarta, and had relatively equal proportion between male and

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female (8 male:10 female). East Java was also categorized as an area of concern for chronically food insecure (WFP, 2007). While Tulungagung District, was also purposively selected, since the number of migrant workers from this area was in the third rank of the highest in East Java, after Malang District and Blitar District. However, the ratio of female and male migrant workers from Tulungagung was the most reasonable (1.6 male per 1 female), compared to Malang (0.07 male per 1 female) and Blitar (0.31 male per 1 female) (Disnaker Jatim, 2007).

Tulungagung District, which have wide area around 1,055.65 km^2 , lies in 111°43' - 112°07' East longitude and 7°15' - 8°18' South longitude. It consists of 19 sub districts, spread from high land, middle land to low land. In 2008, the rate of rainfall is 145 mm. Food crops commonly cultivated in this districts are rice, root and tubers, peanuts, vegetables (lettuce, spinach, egg plant) and fruits(avocado, mango, papaya, banana). Beside lays on agricultural sectors, industrial sector such as marble products also become another options for the population's economic activities.

This study was done in 10 sub districts of Tulungagung District (Bandung, Besuki, Capurdarat, Kalidawir, Kedungwaru, Ngunut, Pakel, Rejotangan, Sumbergempol, and Tulungagung). The population of this study was household attached to male or female migrant workers (as parents), who had children from the age of 6 months to 10 years. Older children were intentionally included in this study; since there was a tendency that they are tend to be neglected in term of food security of household with children. Analysis by Nord (2009) about food insecurity in households with children in US showed that food insecurity among children was about twice as prevalent in households with teenage children as in households in which the oldest child was 4 years or younger. It revealed that younger children are shielded from food insecurity to a greater extent than older children. Furthermore, nutritional status of older children (mainly height for age index) will give more explanation on the situation of food insecurity, since this index indicating long term cumulative inadequacies of health and nutrition (WHO, 1995). Ten years old was decided to be the age limit, by the assumption that children more than 10 years old were already puberty, therefore may influence their nutritional status.

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The inclusion criteria of the households in this study was: mother or father worked as migrant worker, had child age 6 months to 10 years old, mother or father had been working as a migrant worker for at least 6 months. If there were more than one child aged 6 months to 10 years old in the households, the youngest child was chosen as the subject of this study.

3.3. Study Design, Sample Size and Sampling Procedure

3.3.1. Study Design and Sample Size

The study was conducted using cross sectional design. Sample size was calculated using formula to estimate difference between two population proportions with specified absolute precision (Lwanga and Lemeshow, 1991), as shown below:

$$n = \frac{Z^2_{1-\alpha/2}\{P_1(1-P_1) + P_2(1-P_2)\}}{d^2}$$

Note:

$1-\alpha$ = confidence level = 95

d = absolute precision = 0.05

P_1 = anticipated population proportion 1

= Proportion of chronic poverty male headed households with a children

= 0.100 (SMERU, 2009)

P_2 = anticipated population proportion 2

= Proportion of chronic poverty female headed household with a children

= 0.058 (SMERU, 2009)

Since there was limited study in Indonesia, and difficult to find data on household food security comparing gender of the migrant worker or gender of the household, therefore indirect indicator, chronic poverty, was chosen for the anticipated population proportion, considering that household food security is highly determined by socio economic and poverty.

The minimum sample size calculated using that formula was 223 per group. In this study, the total sample was 450 households with children; consist of

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225 households attached to male migrant workers and 225 households attached to female migrant workers.

3.3.2. Sampling Procedure

Purposive sampling was done for the selection of East Java Province and Tulungagung District, considering high number of migrant workers from this area. Then, 10 sub districts (Bandung, Besuki, Capurdarat, Kalidawir, Kedungwaru, Ngunut, Pakel, Rejotangan, Sumbergempol, and Tulungagung) in Tulungagung which have the highest number of migrant workers was selected purposively. From each sub district, 4 villages were selected based on the highest number of migrant workers from those villages. List of eligible households were obtained from each selected village through direct investigation in the villages, and sampling frame was made for each villages. Number of sample per villages was determined based on the number and proportion of eligible male and female migrant workers from those villages.

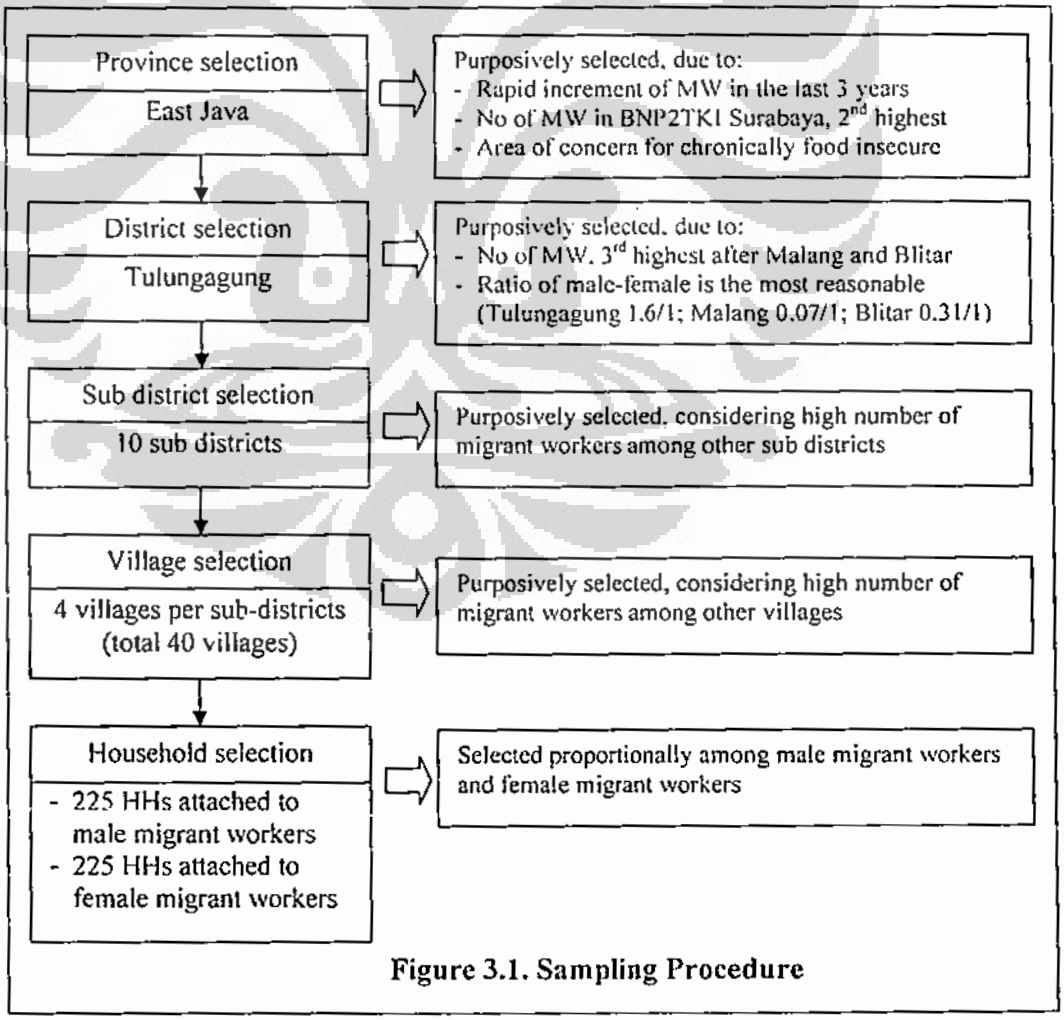

Figure 3.1. Sampling Procedure

3.4. Data Collection Procedure

Data collection was done in two stages, started by conducting qualitative research (Focus Group Discussion) to discuss some topics related to labor migration, household food security, child care practice, and to developed localized coping strategy index based on FAO's guideline. The second stage of this study was the main data collection.

Data collection was conducted using several methods: structured interview to the head of the households and caregivers, dietary assessment (24 hour recall) and anthropometry measurement to the 6 months-10 years old children. Anthropometry measurement was also done to the caregivers. Secondary data (health and demography profile of Tulungagung District) was also collected to get more brief description of the study area.

3.4.1. Interview Using Structured Questionnaire

The interview was conducted using pre-tested structured questionnaire. It was conducted in convenient situation of each selected subject. To collect data of the individual characteristics of the migrants, remittances, socioeconomic status and characteristics, knowledge on food nutrition and health, coping strategy, food accessibility and availability, and household food security status, interview was done to the head of the household. While for dietary intake and child caring aspects, interview was done to the child caregivers. Food security status was assessed using US FSSM questionnaire, and mental health status of the caregivers was assessed using Beck's Depression Inventory scale.

3.4.2. Dietary Assessment

A single 24-hour recall was also included in the interview to get information on food intake as a part of feeding practices, covering macronutrient and micronutrient intake of the children. The questionnaire also included Household and children dietary diversity score (HDDS and IDDS).

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3.4.3. Anthropometric Measurement

Anthropometry assessment was performed by measuring body weight and height or length of the children and the caregivers. Body length measurement was performed for children less than two years old who could not stand correctly yet.

a. Body Weight

Body weight of children and caregivers was measured by using electric weigh scale SECA. The scale was positioned in flat surface and the starting point on zero. The respondents were asked to stand in the center of the platform (the two feet should be on the rubber mat of the scale) with upright position (looking straight ahead). Children who can not be weighed on stand position was weighed in their mother's hold. Mother's weight was measured first. While the mother still standing on the weighing scale, the scale was set on zero point and then the child was passed to the mother, to put on the mother's arms. During the weighing measurements, the respondent was not allowed to wear any slipper/shoes, hat, etc and must wear minimum clothing as possible. The body weight was recorded to the nearest 0.1 kg. The measurements were done twice for every subject, and the end result was calculated as the average of two measurements.

b. Body Height

Height of the children and caregivers was measured in standing position by microtoise. To perform height measurement, the microtoise was hanged in flat surface. During the measurement, slippers/ shoes and shocks were taken off, as well as all hair accessories. The subjects stood vertically in the middle of the platform, with the head in 'horizontal Frankfurt plane' position. The subject's feet should be flat and together in the center of and against the back and base of the wall. The enumerators made sure the subject's legs were straight and the heels and calves were against the board/wall. When the subject's position was correct, the measurement was read to the nearest 0.1 cm (Gibson, 2005). The measurements were done twice for every subject, and the end result was the average of two measurements.

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c. Recumbent Length

The recumbent length was done for children whose age less than 24 month, by using length board. The length board was placed on a horizontal surface. Two examiners were required to correctly position the subject and ensure the accurate and reliable measurements of length. The respondent was laid down with face up-ward, and the head toward the fixed end of the board and the body parallel to the board's axis. Then, one examiner applied a gentle traction to bring the crown of respondent's head into contact with the fixed headboard and positions the head so that the Frankfurt plane was vertical. The second examiner hold the respondent's feet, without shoes or socks, toes pointing directly upward and keep the respondent's knee straight, bring the moveable footboard to rest firmly against the heels. The reading was taken to the nearest 0.1 cm (Gibson, 2005). The measurement was done twice for every subject, and the end result will be the average of two measurements.

3.4.4 Observation

Observation was done to observe housing condition and child care practice, especially hygiene and sanitation aspects. Observation checklist was provided to record the result of observation.

3.4.5 Focus Group Discussion

Focus Group Discussion (FGD) was done prior to data collection through survey, to gather information which was probably missed by the instrument for survey (questionnaire). The topics covered by the discussion were child care practice, remittance and household food security. The FGD was also intended to modify and "localize" generic instrument of coping strategy index developed by FAO. The FGD was done in 4 groups: 2 groups consisted of the spouses of male migrant workers and 2 groups consisted of the spouses of female migrant workers.

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3.5. Data Analysis

3.5.1. Household Food Security and Coping Strategy

a. Household Food Security

Household food security was measured using Food Security Survey Module developed by USDA (US-FSSM). It has ever been applied in Indonesia by Usfar et al (2007) and showed that household food security status measured by US-FSSM was in line with coping strategy indicators found in urban and rural Indonesia. This instrument yields four categories of household food security status: food secure, food insecure without hunger, food insecure with hunger (moderate), food insecure with hunger (severe)

To determine households' scores on the food security scale, the responses were coded into 1 as "affirmative" or 0 as "negative" response, followed the USDA's guideline. Questions Q2 to Q7 have three response categories: "often true," "sometimes true," and "never true." For these questions both "often" and "sometimes" are considered affirmative responses because they indicate that the condition occurred at some time during the year. Q8a, Q12a, and Q14a are follow-up questions whose response categories are "almost every month," "some months but not every month," and "only one or two months." For purposes of the scale, the first two responses are considered affirmative and the third is considered negative. Thus, the negative condition on these indicators is "only one or two months" while the positive, or affirmative, is that the condition occurred in three months or more during the year. Table 4 show the cut off point of FSSM score for categorizing the households into household food security status.

Table 3.2. US-FSSM Scoring System for Household with Children

Number of affirmative response	Code	Category of Food security status level
0-2	0	Food secure
3-7	1	Food insecure without hunger
8-12	2	Food insecure with hunger, moderate
13-18	3	Food insecure with hunger, severe

Child food security was also assessed in this study based on the 8 child-referenced questions in the US Household Food Security Survey Module (US-FSSM), and was classified as follows:

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Table 3.3. Scoring system for Children's Food Security Scale (USDA, 2005)

Raw score	Category of Children Food security status
0-1	High or marginal
2-4	Low
5-8	Very low

b. Coping Strategy

Coping strategy was assessed using Consumption Coping Strategy Index (CSI). Coping strategy index is a series of questions about how households manage to cope with a shortfall in food for consumption results in a simple numeric score (FAO, 2003). The CSI has a set of generic questions which can be translated, adopted and modified based on the local conditions. Steps for calculating the CSI was firstly by assign raw score in each strategy, based on the respondent's answer. Secondly, the raw score of each strategy was multiplied with its severity weight, to produce score relative. While the raw score was already determined by the generic form of this instrument, severity weight was determined by agreement with the community through FGD. Total score was calculated by summing up all the score relative. The higher the score of CSI, indicate that the household is more food insecure.

Table 3.3. Calculation of Coping Strategy Index

	In the past 30 days, is there have been times when you did not have enough food or money to buy food, and how often has your household had to:	All the time (everyday)	Pretty often (3-6x/wk)	Once in a while (1-2x/wk)	Hardly at all (<1x/wk)	Never	Raw score	Severity weight	Score relative (freq*wt)
	Relative freq score	7	4.5	1.5	0.5	0			
1	Rely on less preferred and less expensive food?								
2	Borrow food, or rely on help from friend or relative?								
3	Purchase food on credit?								
4	Gather wild food, hunt, or harvest immature crops?								
5	Consume seed stock held for net season?								
6	Limit portion size at mealtime?								
7	Restrict consumption by adult in order for small children to eat?								
8	Ration the money you have and buy prepared food?								

Table 3.3. Calculation of Coping Strategy Index (continued)

In the past 30 days, is there have been times when you did not have enough food or money to buy food, and how often has your household had to:		All the time (everyday)	Pretty often (3-6x/wk)	Once in a while (1-2x/wk)	Hardly at all (<1x/wk)	Never	Raw score	Severity weight	Score relative (freq*wt)
Relative freq score		7	4.5	1.5	0.5	0			
9	Reduce number of meals eaten in a day?								
10	Skip entire days without eating								
11	Change the staple food								
12	Mix the taple food								
								Total household CSI score	

3.5.2. Dietary Intake

Dietary data from single 24 hour recall was analyzed using NutriSurvey program, yielding nutrient intake and percent adequacy of calorie and protein to RDA. Dietary diversity questionnaire was analyzed to obtain dietary diversity score by summing up the score from each item of questions.

Dietary diversity can be defined as the number of different foods or food groups consumed over a given reference period. For the household, DDS was calculated using a set of 12 food groups (cereals; white roots and tubers; vegetables; fruits; meat; eggs; fish and other seafood; pulses, legumes and nuts; milk and milk products; oil and fats; sweets; spices, condiments and beverages), while for children, DDS was calculated using a set of 8 food groups (Grains, roots, tubers; vitamin A rich plant foods; other fruits or vegetables; meat, poultry, fish, seafood; eggs; pulses/ legumes/ nuts; milk and milk products; foods cooked in oil/fat). DDS will be calculated by summing the number of food groups consumed by the household and children in the 24 hour period (FAO, 2008).

3.5.3. Anthropometry

Anthropometry assessments of the under-five children were converted to three indexes: height-for-age, weight-for-age and weight-for-height. Then, these indexes was converted into standard deviation (SD) scores (Z-scores) relative to the 2005 WHO Child Growth Standard. While for children 5-10 years old, BMI for age was applied instead of weight for height, since this index is not applicable for older children. Body mass index was calculated to define nutritional status of

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the caregivers. Nutritional status classification of the children and caretakers are described in the table below.

Table 3.4. Classification of Nutritional Status

Subject	Indices	Categories	References
Children 6-59 months	z-scores WAZ ≥ -2SD WAZ <-2 – (-3) SD WAZ < -3SD	 well-nourished moderately underweight severely underweight	WHO, 2005
	HAZ ≥ -2SD HAZ <-2 – (-3) SD HAZ < -3SD	well-nourished moderately stunting severely stunting	
	WHZ ≥-2SD WHZ<-2 – (-3) SD WHZ < -3SD	well-nourished moderately wasting severely wasting	
Children 5 – 10 yeas	BMI for age > +2 SD > +1 SD -2 SD – (1) 2SD < -2 SD < -3 SD	 Obesity Overweight Normal Thinness Severe thinness	WHO, 2009
	Height for age HAZ ≥ -2SD HAZ <-2 – (-3) SD HAZ < -3SD	 well-nourished moderately stunting severely stunting	
	Weight for age HAZ ≥ -2SD HAZ <-2 – (-3) SD HAZ < -3SD	 well-nourished moderately underweight severely underweight	
Caregiver	BMI classification for Asian BMI < 18.50 BMI 18.5-22.99 BMI 23-27.49 BMI ≥27.50	 underweight normal overweight obese I	WHO expert consultation, 2004

Z-scores of height for age, weight for age, and weight for height for under-five children was calculated using WHO Anthro 2005, while for children age 5-10 years old, the z-scores was calculated using WHO AnthroPlus. Estimation of energy and nutrient intake was calculated and analyzed by using NutriSurvey Program.

3.5.4. Analysis of Knowledge on Proper Child Care

Knowledge on proper child care was assessed using scoring system. Ten items of questions yield maximally 20 points of score. If the respondent's score is more or equal to 75% of the total score, then it will be categorized good

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knowledge; 50-<75% will be categorized average, and less than 50% will be categorized low knowledge.

3.5.5. Analysis of Mental Health

Mental health was assessed using Beck's Depression Inventory scale (BDI) which consists of 20 questions. Classification of mental health problem was based on the score generated from this instrument, which classified into 4 categories of mental health problems as below:

1. Minimal: BDI score 1-13
2. Mild: BDI score 14-19
3. Moderate: BDI 20-28
4. Severe: BDI score 29-63

3.5.6. Statistical Analysis

Data entry and statistical analysis was carried out with SPSS for Windows Version 15.0. Difference of food security status and other variables among household attached to male and female migrant workers was tested using t-test (for continuous data/ scoring and normally distributed), Mann-Whitney test (for continuous data/ scoring and not normally distributed), and chi-square test (for categorical data). Determinant factors of household food insecurity was firstly analyzed using bivariate analysis, and those which were found significantly associated to household food insecurity, was then include in the multivariate analysis using logistic regression, together with gender of the migrant worker. Similarly, determinant factors of child nutritional status was firstly analyzed using bivariate analysis, and those which were found significantly associated to child nutritional status, was then include in the multivariate analysis using logistic regression.

3.6. Ethical Consideration

This study was conducted after acquiring approval from the ethical committee of Faculty of Medicine, University of Indonesia. Permission from local government (province and district level), as well as local health authority, was

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also solicited before starting the data collection. Respondents were assessed only after they give their informed consent. Participation of respondents was voluntary and all the information they give to the researchers was treated confidentially and only used for the purpose of this study.

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PART 4
RESULTS

The results of this study are divided into several sections, i.e. general characteristics of the households, household food security status, immediate causes of household food insecurity, underlying causes of household food insecurity, basic causes of household food security, factors associated to household food security, child care practice and resources for care, child dietary intake, health status of the children and nutritional status of the children.

4.1. General Characteristics of the Households

The mean age of the migrant workers were slightly higher among male compared to female migrant workers (37.2±6.4 years old among male and 32.2±5.4 years old among female migrant workers), however there was no significant difference. More than fifty percent of the children were at the age of more than five years old, with the mean age 66.6±30.8 months, and there was significant difference in the mean age and age group of the child left by male and female migrant workers. Female migrant workers tend to leave older children, as shown in table 7. When fathers leave the child for working abroad, child caring was handled by the mother (spouse). But when the mothers leave the child, grandparents plays an important role in child caring. There was significant difference of the caregiver among households attached to male and female migrant workers.

Table 4.1. Distribution of Sex and Age of the Migrant Workers, Children, and Caregivers

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Age of the migrant workers, *mean±SD*	37.20±6.40	32.23±5.43	34.71±6.43
Sex of the children, boys, *n (%)*	109 (48.4)	116 (51.6)	225 (50.0)
Age of children, *mean±SD*[1]	62.96±33.19	70.27±27.89	66.61±30.84
Age group of children, *n (%)*[2]			
6-<12 months	14 (6.2)	0 (0)	14 (3.1))
12 – <24 months	25 (11.1)	8 (3.6)	33 97.3)
24 – <60 months	68 (30.2)	89 (39.6)	157 (34.9)
>60 months	118 (52.4)	128 (56.9)	246 (54.7)

[1]t-test (p<0.001)
[2]chi-square test (p<0.001)
MMW=Male Migrant Worker; FMW=Female Migrant Worker

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Table 4.1. Distribution of Sex and Age of the Migrant Workers, Children, and Caregivers (continued)

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Main caregiver, *n (%)*[2]			
Father	2 (0.9)	117 (52.0)	119 (24.4)
Mother	216 (96.0)	1 (0.4)	217 (48.2)
Grandmother/grandfather	5 (2.2)	89 (39.6)	94 (20.9)
Other relatives	2 (0.9)	18 (8.0)	20 94.4)
Sex of the caregivers, female, *n (%)*[2]	223 (99.1)	104 (46.2)	327 (72.7)
Age of the caregivers, *median (min-max)*[3]	32 (21-82)	42 (18-80)	37.0 (18-82)

[2]chi-square test (p<0.001)
[3]Mann-Whitney test (p<0.01)
MMW=Male Migrant Worker; FMW=Female Migrant Worker

Most of male migrant workers (76.9%) worked as building or farming labor, and therefore most of them worked in Malaysia (76.4%) which provides large employment in this area. While most of the female (88.9%) worked as housemaid, and the country of destination were more varied. The largest percentage (40.4%) was in Taiwan. There was significant difference of occupation and country of destination among male and female migrant workers.

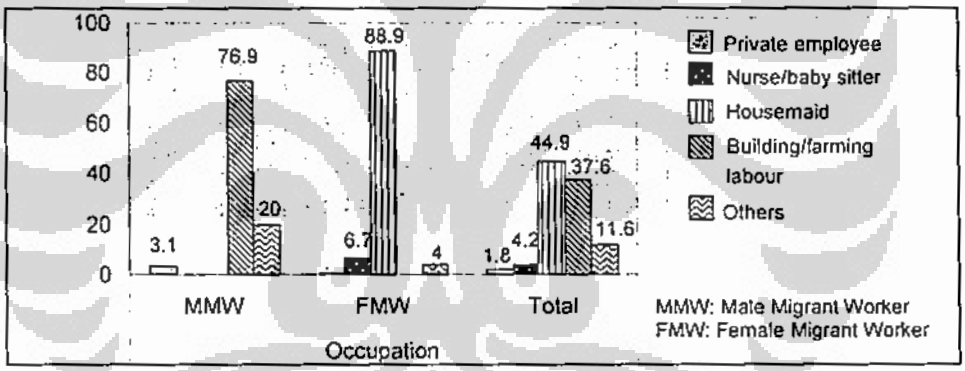

Figure 4.1 Occupation of the migrant worker

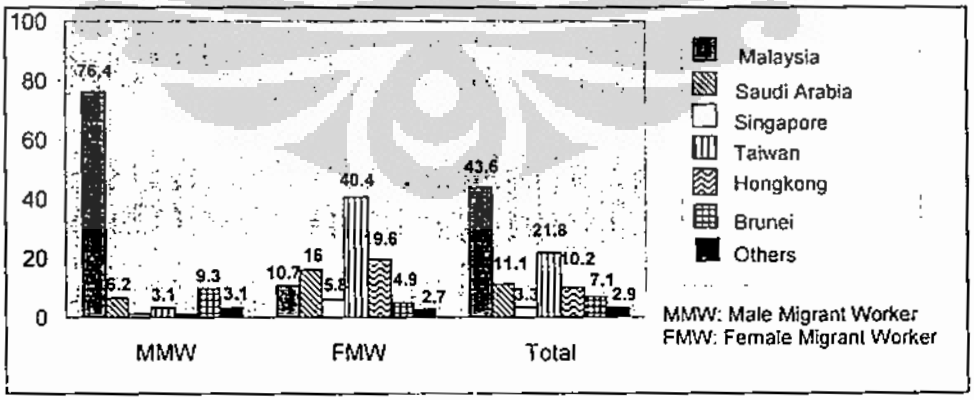

Figure 4.2 Country of Destination

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Both male and female migrant workers were mostly used agency for the arrangement of their departure (72% among male and 94.7% among female migrant workers). However, there ' 52 .ignificant difference of the departure arrangement among male and female migrant worker where more female migrant workers used agency for their departure (72.0% among male and 94.7% among female migrant workers), and the percentage of those who self arranged was much higher among male migrant workers (21.8% among male compared to 4.0% among female).

Table 4.2. Distribution of Characteristics of the Migrant Worker

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Length of work, months, *median (min-max)*	24 (6-240)	18 (6-144)	24 (6-240)
Arrangement of the departure, *n (%)*[1]			
Agency	162 (72.0)	213 (94.7)	375 (83.3)
Self arranged	49 (21.8)	9 (4.0)	58 (12.9)
Others	14 (6.2)	3 (1.3)	17 (3.8)
Legality, legal, *n (%)*	208 (97.2)	214 (98.6)	422 (97.9)

[1]chi square test ($p<0.001$)
MMW=Male Migrant Worker; FMW=Female Migrant Worker

4. 2. Household Food Security Status

Most of the households were food secure. In total, only 25.3% of the households were food insecure. There was significant difference of household food security status among households attached to male and female migrant workers. Households attached to male migrant workers were more food secure compared to those attached to female (82.2% and 67.1% food secure households among male and female migrant workers, respectively). Similar pattern also found in child food security status. There was also significant difference of child food security status among children attached to male and female migrant workers. Child attached to male migrant workers were more food secure (73.3% vs. 62.2% high food secure among children attached to male and female, respectively).

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Table 4.3. Food security Status of the Household and the Children

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Score of US FSSM, *median (min-max)*	1 (0-9)	1 (0-9)	1 (0-9)
Household Food security status, *n (%)*[1*]			
Food secure	185 (82.2)	151 (67.1)	336 (74.7)
Food insecure without hunger	38 (16.9)	72 (32.0)	10 (24.4)
Food insecure with moderate hunger	2 (0.9)	2 (0.9)	4 (0.9)
Score of Child FSSM, *median (min-max)*	0 (0-4)	0 (0-4)	0 (0-4)
Children's food security status, *n (%)*[1]			
High food secure	165 (73.3)	140 (62.2)	305 (67.8)
Marginally food secure	40 (17.8)	34 (15.1)	74 (16.4)
Low food secure	20 (8.9)	51 (22.7)	71 (15.8)

[1*]chi square test (p<0.001), regrouped into 2 categories: food secure and food insecure
[1]chi square test (p<0.001)
MMW=Male Migrant Worker; FMW=Female Migrant Worker

Assuming that the longer the labor migration, the higher the income received by the migrant worker and the household, therefore the better the household food security status. However, in this study we could not found significant association between food security and length of work (data is not shown).

4.3. Immediate Causes of Household Food Security

4.3.1. Household Food Production

Overall, 51.9% households did not have any food crops, and 53.3% households have at least one livestock. For those who cultivate food crops, rice was the most common food crops cultivated by the households (36.2%). There was no significant difference of food crops cultivated by the households. While among those who raise livestock, poultry was the most common livestock to be cultivated (42.9%). Specifically for the raise of goat (11.6% among male and 19.2% among female migrant workers) and cow (7.1% among male and 14.7% among female migrant workers), there was significant difference among household attached to male and female migrant workers. Those two live-stocks were found higher among households attached to female migrant workers.

Table 4.4. Household Food Production

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Number of food crops cultivated by the households, *n (%)*			
No food crops	115 (51.1)	118 (52.7)	233 (51.9)
1-3 food crops	101 (44.9)	100 (44.6)	201 (44.8)
4-6 food crops	9 (4.0)	6 (2.7)	15 (3.3)
Household cultivate food crops, *n (%)*			
Rice	90 (40.0)	73 (32.4)	163 (36.2)
Roots and tubers	19 (8.4)	19 (8.5)	38 (8.5)
Legumes	11 (4.9)	9 (4.0)	20 (4.5)
Fruits	30 (13.3)	29 (12.9)	59 (13.1)
Vegetables	29 (12.9)	26 (11.6)	55 (12.2)
Household raise livestock, *n (%)*			
Poultry	98 (43.6)	95 (42.2)	193 (42.9)
Goat[1]	26 (11.6)	43 (19.2)	69 (15.4)
Cow[1]	16 (7.1)	33 (14.7)	49 (10.9)
Fish	4 (1.8)	2 (0.9)	6 (1.3)
Number of livestock raised by the households, *n (%)*			
No livestock	112 (49.8)	98 (43.6)	210 (46.7)
Have at least 1 type of livestock	113 (50.2)	127 (56.4)	240 (53.3)

[1]chi square test ($p<0.05$)
MMW=Male Migrant Worker; FMW=Female Migrant Worker

4.3.2. Food stock from purchasing

Animal protein source food (80.8%) and carbohydrate source food (74.7%) were types of food from purchasing which the most available in the households. While fruits, were the least available food in the household (18.2%), followed by milk (36.4). There was no significant different of food available in the household among households attached to male and female migrant workers. However, more households attached to female migrant workers experience months with inadequate food, compared to households attached to female migrant workers, and there was significant difference (48.4% among female, compared to 34.7% among male).

Table 4.5. Food Stock from Purchasing

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Food (from purchasing) available yesterday, *n (%)*			
Carbohydrate source food	159 (70.7)	177 (78.7)	336 (74.7)
Animal protein source food	183 (81.3)	177 (78.7)	360 (80.8)
Plant protein source food	137 (60.9)	146 (64.9)	283 (62.9)
Vegetables	128 (56.9)	148 (65.8)	276 (61.3)
Fruits	42 (18.7)	40 (17.8)	82 (18.2)
Milk/ milk products	89 (39.6)	75 (33.3)	164 (36.4)

Table 4.5. Food Stock from Purchasing (continued)

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Existence of months with inadequate food. *n (%)*[1]	78 (34.7)	109 (48.4)	187 (41.6)
Score on months of inadequate household food provisioning, *median (min-max)*	0 (0-12)	0 (0-12)	0 (0-12)

[1]chi square test (p<0.01)
MMW=Male Migrant Worker; FMW=Female Migrant Worker

4.3.4. Food/ Non Food Assistance

Most of the households (56.4%) received one type of food assistance, and food discount was the most common assistance received by the households (70.2%). There was no significant difference of food assistance received by households attached to male and female migrant workers.

Table 4.6. Food/ Non Food Assistance

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Household received assistance in the last 6 months, *n (%)*			
Food aid	0	1 (0.4)	1 (0.2)
Food discount (raskin)	150 (66.7)	166 (73.8)	316 (70.2)
Cash transfer	7 (3.1)	6 (2.7)	13 (2.9)
Complementary feeding	8 (3.8)	1 (0.4)	9 (2.0)
Health insurance	5 (2.2)	10 (4.4)	15 (3.3)
Education assistance	40 (17.8)	46 (20.4)	86 (19.1)
Agriculture assistance	9 (4.0)	6 (2.7)	15 (3.3)
Number of assistance received in the last 6 months, *n (%)*			
Did not receive any assistance	57 (25.3)	46 (20.4)	103 (22.9)
Received 1 type of assistance	123 (54.7)	131 (58.2)	254 (56.4)
Received >1 type of assistance	45 (20.0)	48 (21.3)	93 (20.7)

MMW=Male Migrant Worker; FMW=Female Migrant Worker

4.3.5. Coping strategy

Coping score was found slightly higher among households attached to male migrant workers, however there was no significant difference among both household groups. The type of coping actions done by both household groups were similar, except for coping action borrow food, which was higher among household attached to male migrant workers.

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Table 4.7. Coping Strategy of Households Attached to Male and Female Migrant Workers

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Coping score (all households, n=450), *median (min-max)*	20 (0-132)	16 (0-108)	20 (0-132)
Coping actions, yes, *n (%)*			
Buy cheaper but less preferred food	107 (47.6)	109 (48.4)	216 (48.0)
Borrow food[2]	51 (22.7)	33 (14.7)	84 (18.7)
Purchase food on credit	65 (28.9)	65 (28.9)	130 (28.9)
Gather wild food*	51 (22.7)	34 (15.1)	85 (18.9)
Consume seed stock	5 (22.2)	11 (4.9)	16 (3.60
Limit portion size at mealtime	12 (5.3)	13 (5.8)	25 (5.5)
Restrict consumption by adult in order for small children to eat	15 (6.7)	17 (7.6)	32 (7.1)
Purchase instant food	158 (70.2)	156 (69.3)	314 (69.8)
Reduce number of meals eaten in a day	25 (11.1)	26 (11.6)	51 (11.3)
Skip entire day without eating	0	1 (0.4)	1 (0.2)
Change the staple food	33 (14.7)	33 (14.7)	66 (14.7)
Mix the staple food	28 (12.4)	31 (13.8)	59 (13.1)

[2]Chi square test ($p<0.05$)
MMW=Male Migrant Worker; FMW=Female Migrant Worker
*Wild food: young bamboo (*rebung*), snail, flying white ant (*laron*)

Purchased instant food was the most common coping actions done by both household groups, followed by buy cheaper but less preferred food, purchase food on credit, and mixes the staple food.

Among food secure and food insecure households, almost all coping strategies showed that there was significant different, except for strategy of reducing number of meals eaten in a day, which showed no significant different among food secure and food insecure households. Purchase instant food and buy cheaper but less preferred food were the most common coping strategies done by all groups. Those two strategies were not only common among food insecure households, but also among food secure households. No households skip entire day without eating, which showed that food insecurity status in the study area was less severe.

Tabel 4.8. Coping Strategies among Food Secure and Food Insecure Households

Coping strategy, %	MMW (n=225)		FMW (n=225)		Total (n=450)	
	FS (n=185)	FIS (n=40)	FS (n=151)	FIS (n=74)	FS (n=336)	FIS (n=114)
Coping strategy:						
Skip entire day without eating	0	0	0	1.4	0	0.9
Limit portion size[1]	3.2	15.0	2	13.5	2.7	12.3
Restrict consumption by adult[1]	5.4	12.5	2	18.9	3.9	16.7
Consume seed stock	2.5	2.2	0.7	13.5	1.5	9.6

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Tabel 4.8. Coping Strategies among Food Secure and Food Insecure Households (continued)

Coping strategy, %	MMW (n=225)		FMW (n=225)		Total (n=450)	
	FS (n=185)	FIS (n=40)	FS (n=151)	FIS (n=74)	FS (n=336)	FIS (n=114)
Reduce number of meals eaten in a day[ns]	10.8	12.5	9.9	14.9	10.4	14
Mix the staple food[1]	10.8	20.0	6.6	28.4	11	25.4
Change the staple food[1]	23	25.0	9.3	25.7	8.9	25.4
Gather wild food*[1]	16.2	52.5	6.6	32.4	11.9	39.5
Borrow food[1]	17.3	47.5	6.0	32.4	12.2	37.7
Purchase food on credit[2]	28.1	32.5	23.8	39.2	26.2	36.8
Buy cheaper, less preferred food[1]	39.5	85.0	35.1	75.7	37.5	78.9
Purchase instant food[2]	66.5	87.5	67.5	73	67	78.1

[1]chi square test (p<0.001)
[2]chi square test (p<0.05)
[ns]not significant
MMW=Male Migrant Worker; FMW=Female Migrant Worker
*Wild food: young bamboo (*rebung*), snail, flying white ant (*laron*)

Specifically among food insecure households, coping score was not significantly different between household attached to male and female migrant workers. Coping strategy of gather wild food was found significantly higher among household attached to male migrant workers.

Tabel 4.9. Coping Strategies among Food Insecure Households

Coping strategy, %	MMW (n=40)	FMW (n=74)	Total (114)
Coping score, *median (min-max)*	36.0 (2-128)	37.0 (0-104)	36 (0-128)
Coping strategy, *median (min-max)*			
Skip entire day without eating	0	1 (1.4)	1 (0.9)
Limit portion size	6 (15.0)	10 (13.5)	16 (14.0)
Restrict consumption by adult	5 (12.5)	14 (18.9)	19 (16.7)
Consume seed stock	1 (2.5)	10 (13.5)	11 (9.6)
Reduce number of meals eaten in a day	5 (12.5)	11 (14.9)	16 (14.0)
Mix the staple food	8 (20.0)	21 (28.4)	29 (25.4)
Change the staple food	10 (25.0)	19 (25.7)	29 (25.4)
Gather wild food*[2]	21 (52.5)	24 (32.4)	45 (39.5)
Borrow food	19 (47.5)	32 (32.4)	43 (37.7)
Purchase food on credit	13 (32.5)	29 (39.2)	42 (36.8)
Buy cheaper but less preferred food	34 (85.0)	56 (75.7)	90 (78.9)
Purchase instant food	35 (87.5)	54 (73.0)	89 (78.1)

[2]chi square test (p<0.05): MMW=Male Migrant Worker; FMW=Female Migrant Worker
*Wild food: young bamboo (*rebung*), snail, flying white ant (*laron*)

4.3.6 Association of household food security status with household food production, food stock from purchasing, food/ non food assistance and coping strategy

Bivariate analysis among factors associated to food insecurity showed that households which did not cultivate any food crops were associated to household food insecurity. While the other factors, households which only have less than 3 types of food on the day before the interview day, households which ever experience more than 1 month of inadequate food and households which have coping score more than median value were at the higher risk of getting food insecurity.

Tabel 4.10. Association of Household Food Security Status with Household Food Production, Food Stock From Purchasing, Food/ Non Food Assistance and Coping Strategy

Variable	MMW			FMW			Total		
	% FIS	OR	P	% FIS	OR	p	% FIS	OR	P
Staple food crop production									
Cultivate staple	19.4			31.2			24.7		
Did not cultivate staple	16.7	0.833	0.604	22.2	1.127	0.766	25.7	1.055	0.812
Other food crop production									
Cultivate other crop	22.0			46.0			34.0		
Did not cultivate other	16.6	0.704	0.376	29.3	0.487	0.027*	22.9	0.577	0.025*
Livestock									
Raise livestock	20.4			34.6			27.9		
Did not raise livestock	15.2	0.700	0.310	30.6	0.832	0.523	22.4	0.745	0.178
Food available yesterday									
>=3	13.6			30.4			22.2		
< 3	27.3	2.335	0.016*	39.1	1.465	0.214	33.1	1.733	0.016*
Months with inadequate food									
Experience ≤ 1 month	15.2			26.8			20.1		
Experience > 1 month	27.7	2.138	0.046*	44.7	2.206	0.007*	38.2	2.400	<0.001*
Food and non food assistance received									
Received >= 1 type	17.3			23.9			21.4		
Did not receive	19.3	1.146	0.728	35.2	0.579	0.146	26.5	0.753	0.291
Coping score									
< median (20)	3.80			57.0			7.7		
≥ median (20)	29.8	10.58	0.000*	11.0	10.71	<0.001*	42.5	8.929	<0.001*

MMW=Male Migrant Worker; FMW=Female Migrant Worker

4.4. Underlying Causes of Household Food Security

4.4.1 Economic Access to Food

Overall, 52.4% households had good economic access to food. Only 16.0% households have poor economic access to food. There was no significant

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difference of economic access to food among households attached to male and female migrant worker

Table 4.11. Economic Access to Food

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Percent per capita food expenditure from per capita total expenditure, *n (%)*			
Poor (>65%)	38 (16.9)	34 (15.1)	72 (16.0)
Average (50-65%)	75 (33.3)	67 (29.8)	142 (31.6)
Good (< 50%)	112 (49.8)	124 (55.1)	236 (52.4)

MMW=Male Migrant Worker; FMW=Female Migrant Worker

4.4.2. Physical Access to Food

Tulungagung District's area spread from high land, middle land to low land area, with the furthest distance of sub district to the capital around 36 km. Agricultural sector dominate economic activity in most areas in Tulungagung district. Food crops commonly cultivated in these districts are rice, root and tubers, peanuts, vegetables (lettuce, spinach, egg plant) and fruits (avocado, mango, papaya, banana) (*BPS Kabupaten Tulungagung, 2009).*

Grocery facilities such as market, local shop, and street vendors can be found easily in the area of both groups (male and female migrant workers). Only 22.9% households have physical access to supermarket. Physical access to the market was significantly different among both household groups, which was better among households attached to male migrant workers, in term of market availability (61.8% vs. 47.1% among male and female, respectively) and distance between the house and the market (73.8% vs. 48.4% male and female, respectively had their house around ≤ 2 km far from the market).

Table 4.12. Physical Access to Food

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Availability or shopping facilities, *n (%)*			
Market[2]	139 (61.8)	106 (47.1)	245 (54.4)
Local shop	216 (96.0)	217 (96.4)	433 (96.2)
Street vendor	217 (96.4)	222 (98.7)	439 (97.6)
Supermarket	55 (24.4)	48 (21.3)	103 (22.9)
Distance house – market, *n (%)*[1]			
≤ 2 km	166 (73.8)	109 (48.4)	275 (61.1)
≥ 2 km	59 (26.2)	116 (51.6)	175 (38.9)

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Table 4.12. Physical Access to Food (continued)

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Time spent to reach the market, *minutes, median (min-max)*	10 (5-60)	15 (5-120)	15 (5-120)
Way to get the market, *n (%)*			
On foot	7 (3.1)	5 (2.2)	12 92.7)
Using own vehicle	204 (90.7)	203 (91.0)	407 (90.8)
Using public transportation	8 (3.6)	10 (4.5)	18 (4.0)
Easiness to ob'ain staple food, yes, *n (%)*	219 (97.3)	220 (97.8)	439 (97.6)
Easiness to obtain food for side dish, yes, *n (%)*	222 (98.7)	223 (99.1)	445 (98.8)
Easiness to obtain fruits, yes, *n (%)*	212 (94.2)	206 (91.6)	418 (92.9)
Easiness to obtain vegetables, yes, *n (%)*	223 (99.1)	224 (99.6)	447 (99.3)

[1]Chi square test (p<0.001)
[2]Chi square test (p<0.01)
MMW=Male Migrant Worker; FMW=Female Migrant Worker

4.4.3. Association of Household Food Security Status with Economic and Physical Access to Food

Bivariate analysis between household food security and economic as well as physical access to food showed that households had more than 50% of shared per capita expenditure from per capita total expenditure were at greater risk of having food insecurity.

Table 4.13. Association of Household Food Security Status with Economic and Physical Access to Food

Variable	MMW			FMW			Total		
	% FIS	OR	p	% FIS	OR	P	% FIS	OR	p
Percent per capita food expenditure from per capita total expenditure									
Good (<50%)	15.2			24.2			19.9		
Less (≥ 50%)	20.4	1.428	0.310	43.6	2.419	0.002*	31.3	1.833	0.006*
Availability of grocery facilities									
> 2 grocery facilities	19.9			30.7			24.6		
<= 2 grocery facilities	13.9	0.653	0.266	35.1	1.223	0.479	26.3	1.094	0.682
Distance between house and market									
≤ 2 km	18.7			31.2			23.6		
> 2 km	15.3	0.784	0.555	34.5	1.161	0.6	28.0	1.256	0.299
Time spent to reach the market									
≤ 15 minutes	9.8	0.137	0.444	27.7	0.711	0.290	20.8	0.717	0.215
> 15 minutes	19.6			35.0			26.7		

MMW=Male Migrant Worker; FMW=Female Migrant Worker

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4.5. Basic Causes of Household Food Security

4.5.1 Socio Demographic Characteristics

There was significant difference of family type among households attached to male and female migrant workers. The majority of household attached to male migrant workers (64.4%) were nuclear family; while those attached to female migrant workers were extended family (54.7%). When one of the parents worked abroad as a migrant worker, household headship was commonly taken over by the spouse.

Table 4.14. Distribution of Socio Demographic Characteristics of the Households

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Number of household member, *median (Percentile*)*[1]	4 (3, 4)	4 (3, 5)	4 (3, 5)
Number of children <10 yrs old, *median (Percentile*)*	1 (1, 1)	1 (1, 1)	1 (1, 1)
Type of family, nuclear, *n (%)*[2]	145 (64.4)	102 (45.3)	247 (54.9)
Head of the Household, *n (%)*			
Father	0 (0)	163 (72.4)	163 (36.2)
Mother	179 (79.6)	0 (0)	179 (39.8)
Grandmother	1 (0.4)	27 (12.0)	28 (6.2)
Grandfather	45 (20.0)	25 (11.1)	70 (15.6)
Others	0 (0)	10 (4.4)	10 (4.4)

[1]Mann-Whitney test (p<0.001)
[2]Chi square test (p<0.001)
*Percentile 25th, 75th
MMW=Male Migrant Worker; FMW=Female Migrant Worker

Educational level of the migrant workers and the spouse were not significantly different. Most of migrant workers were graduated from elementary school and junior high school, and so did the spouses.

Table 4.15. Distribution of Socio Demographic Characteristics (Education) of Migrant Workers and the Spouse

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Education of the migrant worker, *n (%)*			
No or <3 years of schooling	3 (1.3)	1 (0.4)	4 (0.9)
Elementary school	97 (43.1)	81 (36.0)	178 (39.6)
Junior high school	79 (35.1)	97 (43.1)	176 (39.1)
Senior high school	45 (20.0)	45 (20.00)	90 (20.0)
University	1 (0.4)	1 (0.4)	2 (0.4)

MMW=Male Migrant Worker; FMW=Female Migrant Worker

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Table 4.15. Distribution of Socio Demographic Characteristics (Education) of Migrant Workers and the Spouse (continued)

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Education of the spouse, *n (%)*			
No or <3 years of schooling	2 (0.9)	4 (1.8)	6 (1.3)
Elementary school	56 (24.9)	97 (43.1)	153 (34.0)
Junior high school	99 (44.0)	80 (35.6)	179 (39.8)
Senior high school	60 (26.7)	41 (18.2)	101 (22.4)
University	8 (3.6)	3 (1.3)	11 (2.4)

MMW=Male Migrant Worker; FMW=Female Migrant Worker

Before working as a migrant worker, most of the male migrant workers worked as laborer (56.0%), and the females were housewife (71.0%). Similar pattern also found among the spouse of the migrant workers. The majority of the spouse of male migrant workers was housewife (71.0%) and the spouse of the female migrant workers was mostly laborer (51.2%).

Table 4.16. Distribution of Migrant Worker's Initial Occupation and the Spouse's Occupation

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Initial occupation of the migrant worker, *n (%)*			
Farmer/fisherman (land/boat owner)	39 (17.3)	12 (5.4)	51 (11.4)
Labor	126 (56.0)	32 (14.3)	158 (35.2)
Government employee	0	1 (0.4)	1 (0.2)
Private employee	18 (8.0)	14 (6.3)	32 (7.1)
Housewife	0	159 (71.0)	159 (35.4)
Unemployed	32 (14.2)	2 (0.9)	34 (7.6)
Others	10 (4.4)	4 (1.80	14 (3.1)
Occupation of the spouse, *n (%)*			
Farmer/fisherman (land/boat owner)	10 (4.5)	34 (16.7)	44 (10.3)
Labor	24 (10.7)	104 (51.2)	128 (30.0)
Government employee	2 (0.9)	3 (1.5)	5 (1.2)
Private employee	24 (10.7)	34 (16.7)	58 (13.6)
Housewife	159 (71.0)	0	159 (37.2)
Unemployed	0	18 (8.9)	18 (4.2)
Others	5 (2.2)	10 (4.9)	15 (3.5)

MMW=Male Migrant Worker; FMW=Female Migrant Worker

4.5.2. Socio Economic Characteristics

There was significant different of household food expenditure per capita and total expenditure per capita among household attached to male and female migrant workers. Household food expenditure per capita and total expenditure per

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capita were higher among household attached to male migrant workers. Remittance sent per month by male and female migrant workers also significantly different. Male migrant workers send higher remittance compared to the female.

Table 4.17. Distribution of Socio Economic Characteristics (Income and Expenditure) of the Households

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Household income, per capita per months, *median (min-max)*	500.000 (50.000-2.266.667)	466.667 (60.000-3.000.000)	500.000 (50.000-3.000.000)
Non food expenditure with saving, per capita per months, *median (min-max)*	148.283 (31.883-1.266.300)	149.750 (11.500-1.414.200)	148.562 (11.500-1.414.200)
Non food expenditure without saving, per capita per months, *median (min-max)*	128.100 (31.883-491.000)	117.225 (11.500-598.400)	122.158 (11.500-598.400)
Household food expenditure, per capita per months, *median (min-max)*[1]	151.125 (37.333-375.000)	128.000 (40.250-535.000)	137.291 (37.333-535.000)
Total expenditure, per capita per months, *median (min-max)*[1]	321.166 (70.900-1.481.667)	272.200 (66.333-1.949.200)	298.631 (66.333-1.949.200)
Remittance per month[1]	1.500.000 (83.300-7.000.000)	1.250.000 (41.600-7.000.000)	1.500.000 (41.600-10.000.000

[1]Mann-Whitney test ($p<0.05$)
MMW=Male Migrant Worker; FMW=Female Migrant Worker

Assets ownership (electronic goods and other assets) was found higher among households attached to male migrant workers (43.1% vs. 26.2% among male and female migrant workers, respectively, who had more than five types of electronic assets), and there was significantly different from household attached to female migrant worker.

Almost all (99.8%) of the households have electricity for the house lighting. Floor, wall and roof were also mostly permanent. Regarding the remittance, most of the migrant workers sent their remittance in the form of money, and mostly was utilized by the households for primary needs. Other utilization of remittance was for saving (37.9%), pay loan (18.1%) and investment (16.9%). Specifically for remittance utilization for saving, there was significant difference among households attached to male and female migrant workers, which was found higher among household attached to male migrant workers (44.1% Vs 30.7% among male and female migrant workers, respectively, who utilize their remittance for saving).

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Table 4.18. Distribution of Other Socio Economic Characteristics of the Households

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Assets ownership			
Number of asset (electronic goods), *n (%)*[1]			
≤ 5	128 (56.9)	166 (73.8)	294 (65.3)
>5	97 (43.1)	59 (26.2)	156 (34.7)
Number of other assets, *n (%)*[2]			
≤ 2	126 (56.0)	154 (68.4)	280 (62.2)
>2	99 (44.0)	71 (31.6)	170 (37.8)
Housing condition			
Lighting, electricity, *n (%)*	224 (99.6)	225 (100)	449 (99.8)
Floor, *n (%)*			
Permanent	189 (84.0)	77.8 (78.9)	364 (80.9)
Semi permanent	21 (9.3)	32 (14.2)	53 (11.8)
Non permanent	15 (6.7)	18 (8.0)	33 (7.3)
Wall, *n (%)*			
Permanent	221 (98.2)	214 (95.1)	435 (96.7)
Semi permanent	1 (0.4)	6 (2.7)	7 (1.6)
Non permanent	3 (1.3)	5 (2.2)	8 (1.8)
Roof, permanent, *n (%)*	225 (100)	223 (99.1)	448 (99.6)
Remittance			
Type of remittance, *n (%)*			
Money	211 (95.0)	175 (91.1)	386 (93.2)
Money and goods	11 (5.0)	17 (8.9)	28 (6.8)
Utilization of remittance (n=414)			
Pay loan	38 (17.1)	37 (19.3)	75 (18.1)
Primary need: food	222 (100)	183 (95.3)	405 (97.8)
Primary need: non food	217 (97.7)	180 (93.8)	397 (95.9)
Saving[1]	98 (44.1)	59 (30.7)	157 (37.9)
Investment	43 (19.4)	27 (14.1)	70 (16.9)

[1]Chi square test (p<0.001)
[1]Chi square test (p<0.01)
MMW=Male Migrant Worker; FMW=Female Migrant Worker

4.5.3. Social Capital

Religious group is the most common community organization followed by the households. Women association and farmer group also exist in the community, but only a few households involved in this organization. There was significant difference of the involvement in the farmer group and women association between household attached to male and female migrant workers. Households attached to female migrant worker more involved in farmer group, while household attached to male migrant worker more involved in women association. High social capital index was found higher among household attached to female migrant workers, but the difference was not statistically significant.

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Table 4.19. Social Capital of the Households

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Involvement of household member in community organization, *n (%)*			
Farmer group (n=287)[1]	8 (5.8)	28 (18.9)	36 (12.5)
Women association (PKK) (n=343)[1]	20 (11.6)	3 (1.8)	23 (6.7)
Religious group (*pengajian*) (n=438)	135 (60.8)	140 (64.8)	275 (62.8)
Credit and saving (n=242)	10 (8.1)	4 (3.4)	14 (5.8)
Karang Taruna (n=186)	1 (1.1)	3 (3.1)	4 (2.2)
Lumbung Desa (n=51)	0	1 (4.3)	1 (2.0)
Number of community organization where the HH involved, *median (min-max)*	1 (0-4)	1 (0-2)	1 (0-4)
Level of social capital, *n (%)*			
Low (score of social capital index 0-4)	77 (34.2)	95 (42.2)	172 (38.2)
High (score of social capital index >4)	148 (65.8)	130 (57.8)	278 (61.8)
Household experienced economic difficulty, *n (%)*	119 (52.9)	132 (58.7)	251 (55.8)
People assist when experience economic difficulty, *n (%)*			
Relatives	110 (92.4)	115 (87.1)	225 (89.6)
Neighbor	55 (46.2)	59 (44.7)	114 (45.4)
Other organization member	4 (3.4)	5 (3.8)	9 (3.6)
Community leader	1 (0.8)	4 (3.0)	5 92.0)
Friends who live in other village/ sub district/ district	22 (18.5)	22 (16.7)	44 (17.5)

[1]Chi square test ($p<0.001$)
MMW=Male Migrant Worker; FMW=Female Migrant Worker

4.5.4 Association of Household Food Security Status with Socio-Demographic Characteristics, Socio-Economic Characteristics, and Social Capital

Socio demographic factors which were found significantly associated to household food security were number of household member and education of the migrant worker's spouse. Households which had more than 4 household member and household which the spouse of the migrant worker had less than 9 years of schooling were at the higher risk of having household food security.

Table 4.20. Association of Household Food Security Status with Socio-Demographic Characteristics

Variable	MMW			FMW			Total		
	% FIS	OR	P	% FIS	OR	P	% FIS	OR	P
Number of household member									
≤ 4	16.4			28.8			21.6		
> 4	22.2	1.459	0.327	38.0	1.515	0.144	32.5	1.743	0.012*
Type of the family									
Nuclear	15.9			30.4			21.9		
Extended	21.3	1.431	0.312	35.0	1.231	0.468	29.6	1.5	0.062

MMW=Male Migrant Worker; FMW=Female Migrant Worker
FIS=Food Insecure

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Table 4.20. Association of Household Food Security Status with Socio-Demographic Characteristics (continued)

Variable	MMW			FMW			Total		
	% FIS	OR	P	% FIS	OR	P	% FIS	OR	P
Education of the migrant workers									
>= 9 years of schooling	8.7			30.4			19.6		
< 9 years of schooling	20.1	2.643	0.071	33.5	1.152	0.691	26.8	1.506	0.154
Education of the spouse									
>= 9 years of schooling	10.9			27.3			17.0		
< 9 years of schooling	21.0	2.319	0.053	34.3	1.389	0.475	28.1	1.914	0.019*

MMW=Male Migrant Worker; FMW=Female Migrant Worker
FIS=Food Insecure

This study also clarify that household food security is associated to socio economic factors such as income, assets ownership and housing condition. In this study, households which had income per capita less than the median value, household which had less than 5 types of electronic goods assets, and household who have less than 2 types of assets other than electronic goods were at higher risk of having household food insecurity. Other socio economic indicator, housing condition, also significantly associated to household food insecurity. Households who have semi or non permanent house were at higher risk of being food insecure. Remittance was also found significantly associated to household food insecurity.

Table 4.21. Association of Household Food Security Status with Socio-Economic Characteristics

Variable	MMW			FMW			Total		
	% FIS	OR	P	% FIS	OR	p	% FIS	OR	p
Income per capita									
> median (>500,000)	9.4			18.6			13.5		
≤ median (<500,000)	28.6	3.833	0.000	44.7	3.533	0.000*	37.6	3.842	0.000*
Electronic goods ownership									
> 5 assets	5.2			13.6			8.3		
≤ 5 assets	27.3	6.925	0.000*	39.8	4.208	0.000*	34.4	5.765	0.000*
Other assets ownership									
> 2	16.2			18.3			17.1		
≤ 2	19.0	1.221	0.574	39.6	2.926	0.002*	30.4	2.119	0.002*
Housing condition									
Permanent	15.4			24.9			19.9		
Semi/non permanent	29.7	2.32	0.038*	59.6	4.463	0.000*	47.2	3.587	0.000*
Remittance									
> 1,500,000/month	8.9			19.4			13.3		
≤ 1,500,000/month	25.0	3.407	0.002*	39.2	2.673	0.003*	32.9	3.191	0.000*

MMW=Male Migrant Worker; FMW=Female Migrant Worker
FIS=Food Insecure; Other assets: motorcycle, car, bicycle, jewelry, shop/stall, farm, garden, land

Other factor that may contribute to food security is social capital. However this study did not find significant association between food security and two indicators of social capital used in this research: involvement of the households in community organization and level of social capital, even though there was trend that households who did not involve in any community organization and households who have low level of social capital, tend to be food insecure.

Table 4.22. Association of Household Food Security Status with Social Capital

Variable	MMW			FMW			Total		
	% FIS	OR	p	% FIS	OR	p	% FIS	OR	p
Involvement in community organization									
Involve in > 1	15.4			30.3			23.2		
Did not involve in any	22.0	1.547	0.215	38.6	1.443	0.223	29.6	1.396	0.137
Level of social capital									
High	15.5			35.4			24.8		
Low	22.1	1.540	0.224	29.5	0.763	0.351	26.2	1.073	0.750

MMW=Male Migrant Worker; FMW=Female Migrant Worker; FIS=Food Insecure

4.6. Factors Associated to Household Food Security Status

Logistic regression was conducted to assess predictors of household food insecurity among male and female migrant workers. Factors which were significantly associated to household food insecurity from bivariate analysis were included in the multivariate analysis. Remittance was excluded from the analysis since it was highly correlated to income.

The analysis found that income per capita per month which les than IDR 500,000, non/semi permanent housing, availability of food in the household which was less than 3 types of food, coping score of more than 20, ownership of electronic assets less than 5 and household attached to female migrant workers were significantly associated to household food insecurity. The model correctly predicts 90.4% of the food secure status and 55.3% of food insecure status, and overall correctly predicts 81.5% of the household food security status.

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Table 4.23. Multivariate Analysis of Risk Factors for Household Food Insecurity among Male and Female Migrant Workers

Variables	Exp [B]	95% CI for Exp [B]	P
Per capita food expenditure from per capita total expenditure ≥ 50%	1.172	0.670 – 2.050	0.577
Income per capita per months < IDR 500.000	1.985	1.050 – 3.750	0.035*
Education of the spouse < 9 years of schooling	1.270	0.649 – 2.486	0.485
Housing condition: semi/non permanent	2.294	1.248 – 4.216	0.008*
Number of household member > 4	1.462	0.836 – 2.558	0.183
Household experience more than 1 months with inadequate food	0.768	0.428 – 1.377	0.375
Less than 3 types of food available in the house yesterday	1.975	1.122 – 3.476	0.018*
Household did not cultivate food crops other than staple food	0.575	0.308 – 1.075	0.083
Coping score ≥ 20	10.304	5.312 – 19.989	<0.001*
Asset (electronic goods) ≤ 5	4.601	2.277 – 9.300	<0.001*
Asset (other assets) ≤ 2	0.913	0.502 – 1.662	0.767
Household attached to female migrant worker	2.849	1.605 – 5.058	<0.001*

*logistic regression; Nagelkerke R square=0.437
MMW=Male Migrant Worker; FMW=Female Migrant Worker
FIS=Food Insecure

4.7. Child Care Practice and Resources for Care

4.7.1. Child Care Practice

Child care practice, specifically for child feeding showed that there was significant difference of responsive feeding given by the caregivers to the child attached to male and female migrant workers. Caregivers from household attached to male migrant workers do more responses when the child has poor appetite (40.4% vs. 25.3% caregivers from household attached male and female migrant workers, respectively, did more than two kinds of responses). Hand washing practices also found higher among caregivers from households attached to male migrant workers, however, statistically, there was no significant difference.

There was also significant different pattern of health seeking behavior among caregivers from households attached to male and female migrant workers. More caregiver from household attached to male migrant workers chooses formal health seeking facilities (82.2% vs. 72.0% among caregivers attached to male and female migrant workers, respectively).

Significant different pattern of caring among children attached to male and female migrant workers was also found for the response when the child is crying while the caregivers is working. More caregivers from household attaché to male

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migrant workers did appropriate response when the child is crying. Response to leave the work and hold or care the child were found higher among caregivers from household attached to male migrant workers.

Table 4.24. Child Care Practice (Feeding and Health Seeking Behavior)

Variables, *n (%)*	MMW (n=225)	FMW (n=225)	Total (n=450)
Responsive feeding			
Eating while playing	98 (43.6)	52 (23.1)	150 (33.3)
Hold the child[1]	66 (29.5)	37 (16.4)	103 (22.9)
Provide favorite food	136 (60.4)	131 (58.2)	267 (59.3)
Persuade the child	142 (63.1)	136 (60.4)	278 (61.8)
Score on responsive feeding, *median (min-max)*	1 (0-4)	1 (0-4)	1 (0-4)
Score on responsive feeding (max=4)[1]			
Score ≤ 2	134 (59.6)	168 (74.7)	302 (67.1)
Score > 2	91 (40.4)	57 (25.3)	148 (32.9)
Hand washing practice			
Before eat	137 (60.9)	143 (63.6)	280 (62.2)
Before feed the child	71 (31.6)	62 (27.6)	133 (29.6)
After defecate	41 (18.2)	42 (18.7)	83 (18.4)
Before help the child washing after defecate[1]	130 (57.8)	95 (42.2)	225 (50.0)
Before preparing food[2]	42 (18.7)	27 (12.0)	69 (15.3)
Score on hand-washing , *median (min-max)*	1 (0-5)	1 (0-5)	1 (0-5)
Score on hand-washing			
Score ≤ 2	130 (57.8)	150 (66.7)	280 (62.2)
Score > 2	95 (42.2)	75 (33.3)	170 (37.8)
Place to go when the child is ill			
Posyandu/ puskesmas	85 (37.8)	95 (42.2)	180 (40.0)
Hospital	24 (10.7)	22 (9.8)	46 (10.2)
Private doctor	76 (33.8)	45 (20.0)	121 (26.9)
Others (paramedic, midwife)	40 (17.8)	63 (28.0)	103 (22.9)
Preference to formal/non formal health seeking facilities for the child during illness[2]			
Formal	185 (82.2)	162 (72.0)	347 (77.1)
Informal	40 (17.8)	63 (28.0)	103 (22.9)
Response when the child is crying while the caregiver working (n=358)			
Ignore the child	8 (4.4)	20 (11.3)	28 (7.8)
Ask somebody to care the child	38 (21.0)	41 (23.2)	79 (22.1)
Leave the work, hold or care the child	124 (68.5)	100 (56.5)	224 (62.6)
Give money	11 (6.1)	16 (9.0)	27 (7.5)
Appropriateness of response when the child is crying while the caregiver working (n=358)[2]			
Appropriate response	162 (89.5)	141 (79.9)	303 (84.6)
Inappropriate response	19 (10.5)	36 (20.3)	55 (15.4)

[1]chi square test (p<0.001)
[2]chi square test (p<0.05)
MMW=Male Migrant Worker; FMW=Female Migrant Worker
FIS=Food Insecure

Other caring practices, in term of hygiene and sanitation (frequency of taking a bath per day, washing hair, brushing teeth, and place to defecate), showed

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no significant difference among household attached to male and female migrant workers. Childs were usually take a bath 2-3 times per day, wash their hair 3 times in a week, brush the teeth 2-3 times per day, and defecate in the toilet.

Table 4.25. Child Care Practice (Hygiene and Sanitation)

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Frequency of taking a bath per day, *n (%)*			
Less than 2 times	7 (3.1)	3 (1.3)	10 (2.2)
2-3 times	200 (88.9)	203 (90.2)	403 (89.6)
More than 3 times	18 (8.0)	19 (8.4)	37 (8.2)
Frequency of washing hair, *n (%)*			
Once in a week	10 (4.4)	2 (0.9)	12 (2.7)
Twice in a week	88 (39.1)	98 (43.6)	186 (41.3)
3 times in a week	75 (33.3)	73 (32.4)	148 (32.9)
Everyday	52 (23.1)	52 (23.1)	104 (23.1)
Frequency of brushing teeth, *n (%)*			
2 times or more per day	166 (73.8)	160 (71.1)	326 (72.4)
Less than 2 times per day	59 (26.2)	65 (28.9)	124 (27.6)
Place to defecate (the caregiver), *n (%)*			
Toilet	212 (94.2)	218 (97.8)	430 (95.5)
Others	13 (5.8)	7 (3.1)	20 (4.4)
Place to defecate (the child), *n (%)*			
Toilet	212 (94.2)	217 (96.4)	429 (95.3)
Others (yard/ garden/ river)	13 (5.8)	8 (3.6)	21 (4.7)

MMW=Male Migrant Worker; FMW=Female Migrant Worker

4.7.2. Resources for Care

There was significant difference of knowledge on proper care among caregivers from household attached to male and female migrant workers. The median score of knowledge on proper care was found higher among caregivers attached to male migrant workers. Caregiver's low knowledge on proper care was found higher among caregivers from household attached to female migrant workers (84.4%) compare to the male (53.8%).

Caregiver from household attached to female migrant workers (14.7%) felt more overburdened by daily domestic works compared to the male (9.8%), although the existence of other people who help them doing housework was found higher among household attached to female migrant workers (64.4%) compared to the male (50.2%).

Alternate caregivers were significantly different among household attached to male and female migrant workers. Household attached to male migrant

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workers (51.6%) rely on grand parents as the alternate caregivers, while household attached to female migrant workers (41.3%) usually ask other family member/relatives to become the alternate caregiver, since grand parents were usually already become the main caregivers.

Table 4.26. Distribution of the Households according to Resources for Care (Caregiver's Knowledge, Burden, and Alternate Caregiver)

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Knowledge on proper care			
Score (total=20), *median (min-max)*[1]	9 (3-15)	7 (0-15)	8 (0-15)
Category of knowledge on proper care, *n (%)*[1*]			
Low	121 (53.8)	190 (84.4)	311 (69.1)
Medium	101 (44.9)	34 (15.1)	135 (30.0)
High	3 (1.3)	1 (0.4)	4 (0.9)
Time spent for child caring, *hours/day, mean ± SD*	5.5 (1-14.5)	5 (0-15)	5 (0-15)
Existence of somebody to help doing housework, yes, *n (%)*[2]	113 (50.2)	145 (64.4)	258 (57.3)
Feeling overburden of daily domestic work, yes, *n (%)*[2]	22 (9.8)	33 (14.7)	55 (12.2)
Alternate caregiver, *n (%)*			
Grand parents	116 (51.6)	82 (36.4)	198 (44.0)
Other family member/ relatives	62 (27.6)	93 (41.3)	155 (34.4)
Neighbor	29 (12.9)	34 (15.1)	63 (14.0)
Nobody	18 (8.0)	16 (7.1)	34 (7.6)
Alternate caregivers, *n (%)*			
Grandparents/other family member/relatives	178 (79.1)	175 (77.8)	353 (78.4)
Other people	47 (20.9)	50 (22.2)	97 (21.6)

[1]Mann-Whitney test (p<0.001)
[1*]Chi square test (p<0.001); regrouped into 2 categories: low and medium/high knowledge
[2]Chi square test (p<0.05)
MMW=Male Migrant Worker; FMW=Female Migrant Worker

The majority of caregivers (92.9%) from both group got emotional support if they face general problems or child care problems. Mental health of the caregiver was also assessed since it may influence child care practice. Mental health of the caregivers was quite good, where most of them (71.0%) have minimal metal health problems. Nutritional status of the caregivers was not significantly different among both groups.

Table 4.27. Distribution of the Households according to Resources for Care (Caregiver's Mental Health and Nutritional Status)

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Emotional support for general problems, available, *n (%)*	214 (95.1)	204 (90.7)	418 (92.9)
Emotional support for child care problems, available, *n (%)*	194 (86.2)	180 (80.0)	374 (83.1)
Mental health			
Score, *mean ± SD*	7 (0-37)	7 (0-38)	7 (0-38)
Category of mental health problem, *n (%)*			
Minimal (BDI score: 1-13)	120 (65.5)	154 (79.5)	274 (71.0)
Mild (BDI score: 14-19)	28 (15.3)	19 (9.4)	47 (12.2)
Moderate (BDI score: 20-28)	23 (12.6)	16 (7.9)	39 (10.1)
Severe (BDI score: 29-63)	12 (6.6)	14 (6.9)	26 (6.7)
Caregiver's BMI	22.07 (15.0-38.48)	22.12 (15.07-32.75)	22.11 (15.07-38.48)
Nutritional status of the caregiver, *n (%)*			
Underweight	22 (9.8)	20 (8.9)	42 (9.3)
Normal	117 (52.0)	111 (49.3)	228 (50.7)
Overweight	57 (25.3)	71 (31.6)	128 (28.4)
Obese I	29 (12.9)	23 (10.2)	52 (11.6)

MMW=Male Migrant Worker; FMW=Female Migrant Worker

4.8. Dietary Intake of the Children

Adequacy of child's energy intake was quite low, only 57.7% of RDA. There was no significant different of energy intake among both groups, however, there was tendency that children from household attached to male migrant worker had slightly higher energy adequacy (60.2% RDA compared to 56.1% RDA among children attached to male and female migrant workers, respectively). Similar tendency also found in protein adequacy.

Overall, protein adequacy was better than energy adequacy, which was 85.3% RDA. Although there was no significant difference of protein adequacy among children attached to male and female migrant workers, there was tendency that children attached to male migrant workers had slightly higher protein adequacy (86.7% RDA vs. 83.3% RDA). The majority of the children had three or more meal times per day (75.6%) and less than two times per day for snacking 63.7%). There was no significant different of meal and snack frequency among children attached to male and female migrant workers, however, there was tendency that children attached to male migrant workers had slightly higher meal and snack frequency.

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Table 4.28. Distribution of the Children according to Energy and Protein Adequacy, Meal Frequency and Snack Frequency

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Energy and protein adequacy, *% to RDA, median (min-max)*			
Energy, % to RDA	60.2 (32.4-143.9)	56.1 (30.8-133.6)	57.7 (30.8-143.9)
Protein, % to RDA	86.7 (19.5-228.2)	83.3 (26.4-224.7)	85.3 (19.5-228.2)
Energy adequacy[a], *% to RDA*			
< 77% RDA	179 (79.6)	191 (84.9)	370 (82.2)
≥ 77% RDA	46 (20.4)	34 (15.1)	80 (17.8)
Protein adequacy[a], *% to RDA*			
< 77% RDA	86 (38.2)	89 (39.6)	175 (38.9)
≥ 77% RDA	139 (61.8)	136 (60.4)	275 (61.1)
Energy adequacy[b], *% to RDA*			
< 90% RDA	201 (89.3)	208 (92.4)	409 (90.9)
≥ 90% RDA	24 (10.7)	17 (7.6)	41 (9.1)
Protein adequacy[b], *% to RDA*			
< 90% RDA	125 (56.6)	126 (56.0)	251 (55.8)
≥ 90% RDA	100 (44.4)	99 (44.0)	199 (44.2)
Meal frequency, ≥3 times/day, *n (%)*	177 (78.7)	163 (72.4)	340 (75.6)
Snack frequency, ≥2times/day, *n (%)*	91 (40.4)	77 (34.2)	168 (37.3)

MMW=Male Migrant Worker; FMW=Female Migrant Worker
[a]Energy and protein adequacy using cut off point 77% (Gibson, 2005)
[b]Energy and protein adequacy using cut off point 90% (Indonesian Food Security Board)

Most of the children (71.3%) had medium dietary diversity score. Children from households attached to female migrant workers have slightly higher dietary diversity score, but statistical analysis showed no significant different of dietary diversity among children attached to male and female migrant workers.

Table 4.29. Distribution of the Children According to Dietary Diversity

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Dietary diversity score, *median (min-max)*	4 (1-8)	4 (2-8)	4 (1-8)
Dietary diversity category, *n (%)*			
Low dietary diversity	60 (26.7)	52 (23.1)	112 (24.9)
Medium dietary diversity	158 (70.2)	163 (72.4)	321 (71.3)
High dietary diversity	7 (3.1)	10 (4.4)	17 (3.8)

MMW=Male Migrant Worker; FMW=Female Migrant Worker

This study did not find significant association between household food security status and dietary intake. However, there was tendency that children from food secure households have slightly better dietary intake than the children from food insecure households.

Tabel 4.30. Household Food Security and Dietary Intake

Variables, *n (%)*	Food secure households	Food insecure households
Energy and protein adequacy[a], *% to RDA, n (%)*		
Energy, *<77% RDA*	272 (81.0)	98 (86.0)
Protein, *<77% RDA*	124 (36.9)	51 (44.7)
Energy and protein adequacy[b], *% to RDA, n (%)*		
Energy, *<90% RDA*	303 (90.2)	106 (93.0)
Protein, *<90% RDA*	190 (56.5)	61 (53.5)
Meal frequency, *< 3 times per day*	81 (24.1)	29 (25.4)
Snack frequency, *< 2 times per day*	208 (61.9)	74 (64.9)
Children dietary diversity		
Low dietary diversity	76 (22.6)	36 (31.6)
Medium dietary diversity	247 (73.5)	74 (64.9)
High dietary diversity	13 (3.9)	4 (3.5)

MMW=Male Migrant Worker; FMW=Female Migrant Worker
[a]Energy and protein adequacy using cut off point 77% (Gibson, 2005)
[b]Energy and protein adequacy using cut off point 90% (Indonesian Food Security Board)

4.9. Health status of the children

Diarrhea and ARI were found slightly higher among children attached to female migrant workers, but there were no significant different of diarrhea and ARI experience among children attached to male and female migrant workers.

Table 4.31. Experience of Illness (Diarrhea and ISPA)

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Children experience illness today, *n (%)*			
Diarrhea	1 (0.4)	4 (1.8)	5 (1.1)
ARI	21 (9.3)	24 (10.7)	45 (10.0)
Children experienced illness in the last 2 weeks, *n (%)*			
Diarrhea	5 (2.2)	8 (3.6)	13 (2.9)
ARI	42 (18.7)	46 (20.5)	88 (19.6)

MMW=Male Migrant Worker; FMW=Female Migrant Worker

4.10. Nutritional Status of the Children

Overall, the prevalence of underweight among children were 15.9%, stunting 24.0%, wasting 18.3%, thinness among children age 5 to 10 years old were 13% and overweight 16.2%. There was no significant different of nutritional status among children attached to male and female migrant workers.

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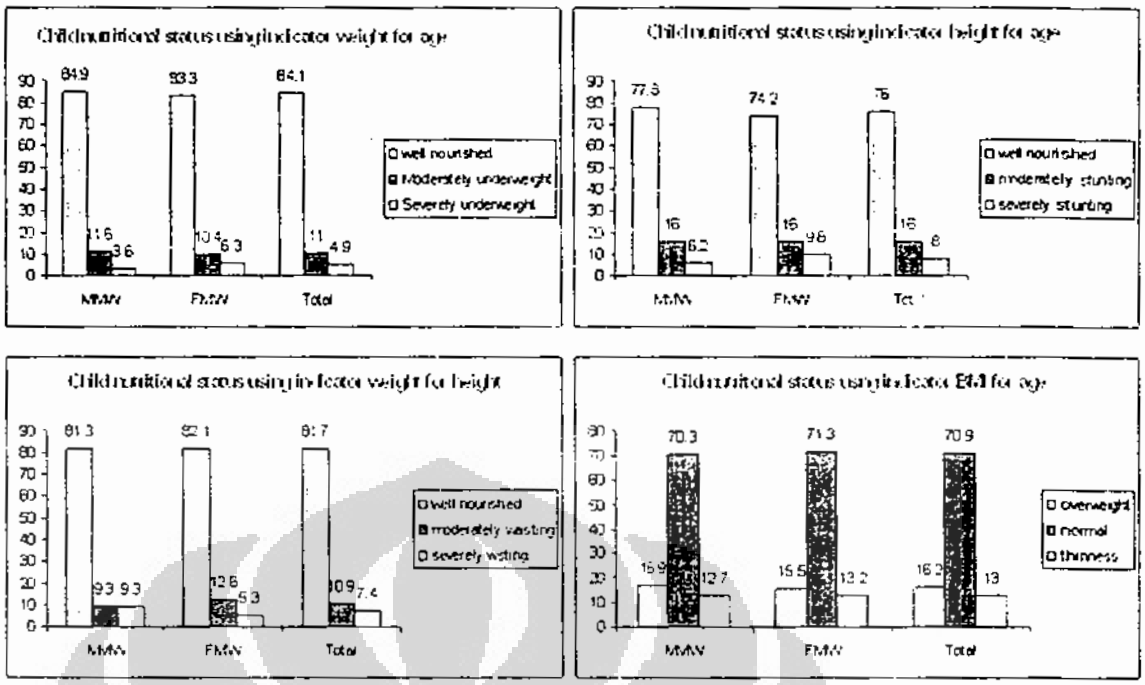

Figure 4.3. Nutritional Status of Children (All Age Group)

Specifically among under-five children, 12.3% were underweight, 23.0% were stunted and 18.3% were wasted. There were no significant difference of nutritional status using indicator weight for age, height for age and weight for height among under-five children attached to male and female migrant workers (figure 4.4).

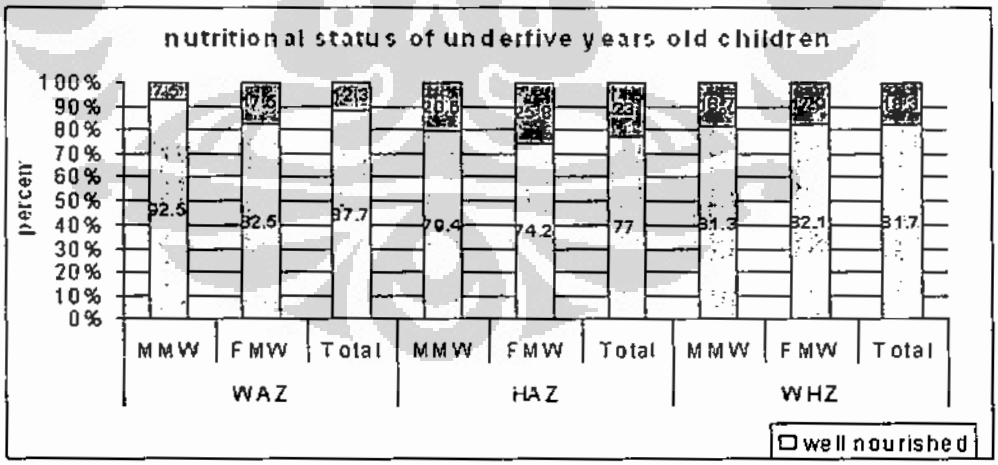

Figure 4.4. Nutritional Status of Under-five Children

Among children age 5-10 years old, there was also no significant difference of nutritional status of children attached to male and female migrant workers (figure 4.5).

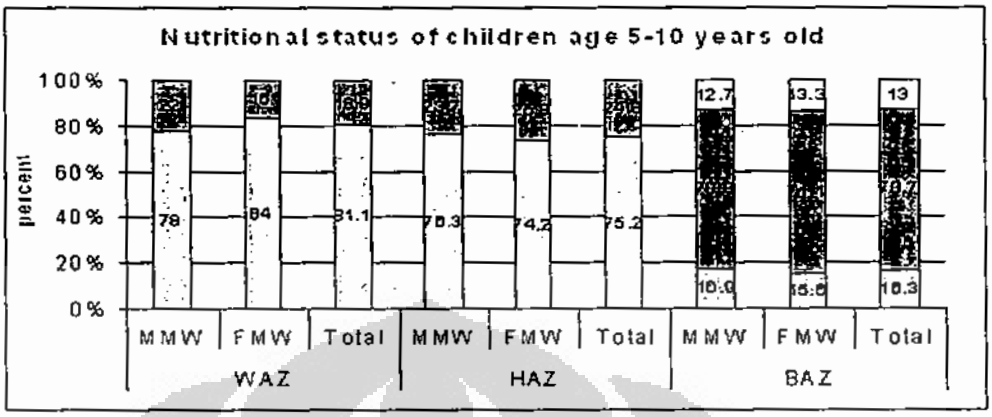

Figure 4.5. Nutritional Status of Children Age 5-10 years old

This study did not find significant association of household food security and child nutritional status. There was no significant different of child nutritional status using indicator weight for age, height for age and weight for age among children from food secure and from food insecure households.

Table 4.32. Household Food Security and Nutritional Status of the Children

Variables, *n (%)*	Food Secure	Food Insecure	Total
Nutritional status of all age group			
Underweight (n=450)	51 (15.3)	20 (17.7)	71 (15.9)
Stunting (n=450)	79 (23.5)	29 (25.4)	108 (24.0)
Wasting (n=203)	27 (17.6)	10 (20.4)	37 (18.3)
Nutritional status of children age 6-24 months (n=47)			
Underweight	4 (10.8)	1 (10.0)	5 (10.6)
Stunting	6 (16.2)	3 (30.0)	9 (19.1)
Wasting	8 (21.6)	3 (30.0)	11 (23.4)
Nutritional status of children > 24-59 months (n=155)			
Underweight	14 (11.9)	6 (15.4)	20 (12.7)
Stunting	27 (22.9)	11 (28.2)	38 (24.2)
Wasting	19 (16.4)	7 (17.9)	26 (16.8)
Nutritional status of children > 59 months (n=247)			
Underweight	33 (18.4)	13 (20.3)	46 (18.9)
Stunting	46 (25.4)	15 (23.1)	61 (24.8)
Thinness	20 (11.0)	12 (18.5)	32 (13.0)

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4.11. Factors Associated to Child Nutritional Status

4.11.1. Gender of the Migrant Worker and Household Food Security Status

Bivariate analysis showed that gender of the migrant worker was associated to underweight among under-five children. Children from household attached to female migrant workers were at the higher risk of become underweight. Gender of the migrant worker was not associated to stunting and wasting in under-five children.

Household food security status was not significantly associated to underweight, stunting and wasting among under-five children, although there was a tendency that under-five children from food insecure household were more likely to be underweight, stunted and wasted.

Table 4.33. Association of Gender of the Migrant Worker and Household Food Security Status with Child Nutritional Status among Under-five Children

Variables, *n (%)*	Underweight (n=204)			Stunting (n=204)			Wasting (n=202)		
	% Under-weight	OR	P	% Stunting	OR	P	% Wasting	OR	P
Gender of the migrant worker									
Male	7.5			20.6			18.7		
Female	17.5	2.630	0.024*	25.8	1.342	0.237	17.9	0.948	0.515
Household food security status									
Food secure	11.6			21.3			17.6		
Food insecure	14.3	1.269	0.391	28.6	1.479	0.193	20.4	1.197	0.403

While among the older children (children aged 5-10 years old), gender of the migrant worker and household food security status were not associated to underweight, stunting and thinness.

Table 4.34. Association of Gender of the Migrant Worker and Household Food Security Status with Child Nutritional Status among Children Age 5-10 Years Old

Variables, *n (%)*	Underweight (n=243)			Stunting (n=246)			Thinness (n=246)		
	% Under-weight	OR	P	% Stunting	OR	P	% Thinness	OR	P
Gender of the migrant worker									
Male	22.0			23.7			12.7		
Female	16.0	0.674	0.150	25.8	1.117	0.412	13.2	1.042	0.533
Household food security status									
Food secure	18.4			25.4			11.0		
Food insecure	20.3	1.128	0.436	23.1	0.880	0.423	18.5	1.834	0.095

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4.11.2. Child Care Practice and Resources for Care

Responsive feeding was associated to underweight and stunting among under five-children, but not to wasting. Under-five children whose caregiver had lower score on responsive feeding were at higher risk of become underweight and stunted. Stunting among under-five children was also found significantly associated to low knowledge on proper care, and caregiver's feeling overburden of daily domestic works.

Table 4.35. Association of Child Care Practice and Resources for Care with Child Nutritional Status among Under-Five Children

Variables, *n (%)*	Underweight (n=204)			Stunting (n=204)			Wasting (n=202)		
	% Under-weight	OR	p	% Stunting	OR	P	% Wasting	OR	P
Score on responsive feeding									
Score > 2	6.5			17.2			14.1		
Score ≤ 2	17.1	2.995	0.016*	27.9	1.845	0.049*	21.8	1.696	0.110
Hygiene score (max score=11)									
Score > median (>8)	7.4			22.1			11.9		
Score ≤ median (≤ 8)	14.7	2.172	0.097	23.5	1.087	0.481	21.5	2.018	0.070
Knowledge on proper care									
Medium/high	7.3			15.9			14.6		
Low	15.6	2.337	0.058	27.9	2.051	0.032*	20.8	1.535	0.176
Alternate caregiver									
Family/ relatives	11.7			23.3			19.8		
Other people	14.6	1.299	0.386	22.0	0.925	0.518	12.5	0.580	0.205
Feeling overburden of daily domestic works									
No	11.2			20.3			18.4		
Yes	23.5	2.432	0.138	52.9	4.411	0.005*	17.6	0.952	0.621
Mental health									
Minimal	11.5			19.2			19.5		
Mild, moderate, severe	13.5	1.198	0.418	29.7	1.777	0.063	16.2	0.797	0.349
Nutritional status of caregiver									
Normal	12.2			23.8			17.3		
Underweight	13.0	1.084	0.558	17.4	0.676	0.349	26.1	1.685	0.224

Among children aged 5-10 years old, only mental health which was found significantly associated to underweight and only hygiene practice was found significantly associated to stunting. Children whose caregiver had mild, moderate or severe mental health problem were at higher risk of become underweight compared to children whose caregiver only had minimal mental health problems. Lower hygiene practice was found to increase the risk of stunting among under-five children.

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Table 4.36. Association of Child Care Practice and Resources for Care with Child Nutritional Status among Children Aged 5-10 Years Old

Variables, *n (%)*	Underweight (n=243)			Stunting (n=246)			Thinness (n=246)		
	% Under-weight	OR	p	% Stunting	OR	P	% Thinness	OR	P
Score on responsive feeding									
Score > 2	18.5			21.8			12.7		
Score ≤ 2	19.0	1.035	0.552	25.7	1.327	0.349	13.1	1.033	0.574
Hygiene score (max score=11)									
Score > median (>8)	16.4			13.5			17.6		
Score ≤ median (≤ 8)	20.0	1.271	0.323	29.7	2.698	0.005*	11.0	0.583	0.119
Knowledge on proper care									
Medium/high	17.9			20.3			10.1		
Low	19.4	1.100	0.468	26.9	1.452	0.164	14.4	1.490	0.238
Alternate caregiver									
Family/ relatives	17.6			24.2			12.1		
Other people	23.6	1.454	0.205	26.8	1.145	0.409	16.1	1.390	0.284
Feeling overburden of daily domestic works									
No	18.5			23.6			12.5		
Yes	21.1	1.172	0.433	31.6	1.498	0.196	15.8	1.313	0.370
Mental health									
Minimal	14.8			25.0			12.5		
Mild, moderate, severe	24.8	1.895	0.038*	24.5	0.974	0.526	13.7	1.114	0.461
Nutritional status of caregiver									
Normal	18.8			25.1			13.2		
Underweight	21.1	1.156	0.501	21.1	0.795	0.470	10.5	0.773	0.539

4.11.3 Dietary intake

Bivariate analysis showed that energy adequacy and dietary diversity score were associated to wasting among under-five children. Under-five children with energy intake less than 77% RDA or children with dietary diversity score less or equal to 4, were at higher risk of getting wasted. Children with lower protein adequacy (<77% RDA) also tend to be wasted; however there was no significant association of protein adequacy and wasting among under-five children. Energy adequacy, protein adequacy and dietary diversity score were not significantly associated to underweight and stunting in under-five children.

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Table 4.37. Association of Dietary Intake with Child Nutritional Status among Under-five Children

Variables	Underweight (n=204)			Stunting (n=204)			Wasting (n=202)		
	% Under-weight	OR	p	% Stunting	OR	P	% Wasting	OR	P
Energy adequacy									
≥ 77% RDA	9.6			23.3			9.6		
< 77% RDA	13.7	1.502	0.263	22.9	0.978	0.540	23.3	2.857	0.011*
Protein adequacy									
≥ 77% RDA	10.3			23.9			15.6		
< 77% RDA	18.4	1.955	0.109	20.4	0.818	0.386	27.1	2.012	0.060
Dietary diversity									
Score > 4	13.8			25.4			12.9		
Score ≤ 4	10.9	0.763	0.339	20.9	0.771	0.269	22.9	2.009	0.048*

Among older children, protein adequacy was found significantly associated to thinness. Children with protein adequacy less than 77% RDA were at higher risk of thinness, compared to children with protein adequacy more or equal to 77% RDA. Energy adequacy, protein adequacy and dietary diversity score were not significantly associated to underweight and stunting among children age 5-10 years old.

Table 4.38. Association of Dietary Intake with Child Nutritional Status among Children Aged 5-10 Years Old

Variables, *n (%)*	Underweight (n=243)			Stunting (n=246)			Thinness (n=246)		
	% Under-weight	OR	p	% Stunting	OR	P	% Thinness	OR	P
Energy adequacy									
≥ 77% RDA	14.3			14.3			14.3		
< 77% RDA	19.1	1.414	0.606	25.1	2.011	0.448	13.0	0.894	0.628
Protein adequacy									
≥ 77% RDA	16.0			24.2			6.7		
< 77% RDA	21.8	1.465	0.161	25.4	1.068	0.470	19.0	3.294	0.003*
Dietary diversity									
Score > 4	17.0			29.0			10.3		
Score ≤ 4	20.4	1.256	0.304	21.6	0.675	0.119	15.1	1.553	0.178

4.11.4. Health status

Bivariate analysis found no significant association of diarrhea and ARI in the last 2 weeks with underweight, stunting, or wasting among under-five children.

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Table 4.39. Association of Health Status with Child Nutritional Status among Under-five Children

Variables, *n (%)*	Underweight (n=204)			Stunting (n=204)			Wasting (n=202)		
	% Under-weight	OR	P	% Stunting	OR	P	% Wasting	OR	P
Children experience diarrhea 2 last weeks									
No	12.1			23.1			18.3		
Yes	20.0	1.823	0.483	20.0	0.832	0.675	20.0	1.118	0.640
Children experience ARI 2 last weeks									
No	11.3			21.9			19.0		
Yes	15.9	1.492	0.274	27.3	1.339	0.286	15.9	0.807	0.413

Similar results also found in older children. Either diarrhea or Acute Respiratory Infection (ARI) in the last 2 weeks was not significantly associated to underweight, stunting and thinness among children age 5-10 years old.

Table 4.40. Association of Health Status with Child Nutritional Status among Children Aged 5-10 Years Old

Variables, *n (%)*	Underweight (n=243)			Stunting (n=246)			Thinness (n=246)		
	% Under-weight	OR	p	% Stunting	OR	P	% Thinness	OR	P
Children experience diarrhea 2 last weeks									
No	19.1			24.5			13.1		
Yes	14.9	0.704	0.603	37.5	1.852	0.318	12.5	0.949	0.719
Children experience ARI 2 last weeks									
No	18.1			25.9			14.9		
Yes	23.3	1.732	0.278	20.5	0.737	0.293	4.5	0.271	0.045

4.12. Determinant Factors of nutritional status in under-five children and children age 5-10 years old

Variables which were found significantly associated to nutritional status (from bivariate analysis), or have $p \leq 0.2$ were run into multivariate analysis to find the determinant factors of nutritional status among children.

Multivariate analysis (logistic regression) showed that Caregiver's responsive feeding (score less than 2) and caregiver's feeling overburden of daily domestic work were significant determinant of underweight among under-five children. While households attached to female migrant worker and food insecure

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households were not significant determinants of underweight among under-five children.

Table 4.41. Multivariate Analysis of Risk Factors for Underweight among Under-five Children

Variables	Exp [B]	95% CI for Exp [B]	P
Household attached to female migrant worker	2.145	0.845 – 5.445	0.108
Food insecure household	0.702	0.234 – 2.099	0.526
Score on responsive feeding ≤ 2	3.337	1.247 – 8.927	0.016*
Hygiene score ≤ 8	2.052	0.707 – 5.955	0.186
Caregiver's feeling of overburden of daily domestic work	3.778	1.019 14.010	0.047*
Caregiver's knowledge on proper care, low	1.325	0.409 – 4.293	0.639
Protein adequacy, < 77% RDA	2.587	0.994 – 6.730	0.051

*Logistic regression using backward LR method; Nagelkerke R square=0.105

Stunting was not significantly determined by household attached to female migrant workers and food insecure household. Factors which found to be the determinant of stunting among under-five children were caregiver's score on responsive feeding less than 2, caregiver's feeling overburden of daily domestic works, caregiver's low knowledge on proper care, and caregiver who have mild/moderate/severe mental health problems.

Table 4.42. Multivariate Analysis of Risk Factors for Stunting among Under-five Children

Variables	Exp [B]	95% CI for Exp [B]	P
Household attached to female migrant worker	0.717	0.313 – 1.642	0.432
Food insecure household	0.639	0.259 – 1.576	0.331
Score on responsive feeding ≤ 2	2.341	1.073 – 5.109	0.033*
Caregiver's feeling of overburden of daily domestic work	5.375	1.734 – 16.661	0.004*
Caregiver's knowledge on proper care, low	2.850	1.162 – 6.993	0.022*
Caregiver's mental health, mild/moderate/severe	2.386	1.108 – 5.138	0.026*

*Logistic regression using enter method; Nagelkerke R square=0.145

Household attached to female migrant workers and food insecure household were not significant determinants of wasting among under-five children. Energy adequacy less than 77% RDA was the only significantly determinant of wasting among under-five children.

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Table 4.43. Multivariate Analysis of Risk Factors for Wasting among Under-Five Children

Variables	Exp [B]	95% CI for Exp [B]	P
Household attached to female migrant worker	0.500	0.194 – 1.286	0.151
Food insecure household	1.038	0.426 – 2.528	0.934
Score on responsive feeding ≤ 2	1.974	0.869 – 4.486	0.104
Hygiene score ≤ 8	2.314	0.952 – 5.623	0.064
Caregiver's knowledge on proper care, low	1.750	0.694 – 4.412	0.236
Energy adequacy, < 77% RDA	2.826	1.071- 7.454	0.036*
Protein adequacy, < 77% RDA	1.213	0.503 – 2.924	0.668
Dietary diversity score ≤ 4	1.596	0.704 – 3.618	0.263

*Logistic regression using enter method; Nagelkerke R square= 0.130

Among older children, neither household attached to female migrant workers nor food insecure households were found as significant determinant of underweight. Only caregiver's mental health problem (mild/moderate/severe) was found as a significant determinant of underweight among children age 5-10 years old.

Table 4.44. Multivariate Analysis of Risk Factors for Underweight among Children age 5-10 Years Old

Variables	Exp [B]	95% CI For Exp [B]	P
Household attached to female migrant worker	0.668	0.343 – 1.298	0.234
Food insecure household	0.879	0.401 – 1.928	0.748
Alternate caregiver, other people other than family member/relatives	1.261	0.597 – 2.661	0.543
Caregiver had mild/moderate/severe mental health problem	2.024	1.004 – 4.078	0.049*
Protein adequacy, < 77% RDA	1.613	0.823 – 3.162	0.164

*Logistic regression using enter method; Nagelkerke R square=0.05

None of the variables analyzed in multivariate analysis were found significant as the determinants of stunting among older children.

Table 4.45. Multivariate Analysis of Risk Factors for Stunting among Children Age 5-10 Years Old

Variables	Exp [B]	95% CI For Exp [B]	P
Household attached to female migrant worker	0.876	0.470 – 1.633	0.678
Food insecure household	0.781	0.387 – 1.577	0.490
Hygiene score ≤ 8	2.725	1.267 – 5.863	0.010
Caregiver's knowledge on proper care, low	1.335	0.684 – 2.603	0.397
Caregiver's feeling of overburden of daily domestic work	1.624	0.692 – 3.353	0.295

*Logistic regression using enter mehod; Nagelkerke R square= 0.060

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While thinness, was found significantly determined by protein adequacy among children age 5-10 years old. Household attached to female migrant workers, food insecure household and dietary diversity score were not significantly determined thinness among children age 5-0 years old.

Table 4.46. Multivariate Analysis of Risk Factors for Thinness among Children Age 5-10 Years Old

Variables	Exp [B]	95% CI for Exp [B]	P
Household attached to female migrant worker	0.953	0.439 – 2.071	0.904
Food insecure household	1.542	0.679 – 3.501	0.300
Protein adequacy, < 77% RDA	3.019	1.280 – 7.122	0.012*
Dietary diversity score ≤ 4	1.257	0.563 – 2.809	0.577

*Logistic regression using enter methoc; Nagelkerke R square= 0.032

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PART 5
DISCUSSION

Study about household food security in specific population, for example among migrant workers, is very rare, especially by analyzing gender difference of the migrant workers. Household attached to migrant workers was selected as the population in this study considering that labor migration has become a common strategy to search for better economic improvement by Indonesians. While issue concerning labor migration are more given to the migrant worker itself, such as violation and human right protection, this study give concern to the household and the child left behind by the migrant workers, to fill the gap of knowledge on the impact of labor migration to the welfare of the family and the children left behind, mainly on health and nutrition aspects. And this study provide an information that although household food security among household attached to migrant workers is quite good, there was other concern which should be taken on child care issue, as this study found that there was difference on resources for care and child care practice among children left by male and female migrant workers. Child care practice and resources for care may later on influence child health and nutritional status.

This study was done only in one certain population in East Java, Indonesia. Considering the diversity of Indonesian population, further research done in other areas which have different characteristics was needed to be conducted to compare whether there is similar pattern of study results which probably can be generalized to other areas in Indonesia. Socio cultural aspects in certain area of Indonesia probably will influence certain variables such as coping strategy and amount of money remitted.

5.1. Household Food Security Status

The prevalence of food insecure households among households attached to migrant workers in Tulungagung District was 25.3%, which is quite low compared to the other studies about household food security which already done in Indonesia. Study done by Usfar et al (2005) in rural and urban areas in Indonesia found that 77% households in urban and 84% households in rural was

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food insecure. Indonesia central food security agency in 2009, through Food and Nutrition Security Monitoring System, found that 36% households in 5 selected districts in East Java were vulnerable to food insecurity. This relatively low prevalence of household food insecurity in Tulungagung district, probably due to the population surveyed in this study was not general population, but specifically households attached to migrant workers. The household received remittance from migrant workers, which may contribute to the improvement of economic status of the households.

Horeinstein (1989) stated that for some households, remittance can be an important contribution to household income. And depending on the particular circumstances, remittance can help the household achieve a higher level of food security. Studies done in Philippine (UN-INSTRAW, 2006; 2007) found that households that benefits from remittances have seen various improvements in food security. Remittances provide households with the purchasing power to obtain foods. And it is confirmed by the result in this study, that almost all the households mentioned food as one of the uses of remittances. The ADB Southeast Asian Worker's Remittance Study also recorded food as one of the 3 top spending from remittance, along with house and education (ADB, 2006).

This study found that food security status of households attached to male migrant workers was higher than the female. Other proxy indicator of food insecurity, month with inadequate food provisioning (MIFP), also showed consistent finding that household who ever experienced months with inadequate food was higher among households attached to female migrant workers. Food security which found higher among household attached to male migrant workers probably because the management of resources, including remittance, in households attached to male migrant workers was taken by the women, and women tend to have better management of income. It supported by finding in this study that more households attached to male migrant worker utilize the remittance for saving. Food expenditure among household attached to male migrant workers also higher compared to household attached to female migrant worker. Empirical evidence by UN-INSTRAW (2008) showed that placing economic resources in the hand of women increases food security and overall welfare of the households.

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Haddad and Hoddinott (1995), using the Cote d'Ivoire Living Standards Survey, show that share of income controlled by females has a positive and significant effect on the budget share expenditure on food. Kenny (2008) although also found similar results, his perspective on explaining this gender difference was interesting. He noted that mothers are not inherently more likely to spent on food (or education) than fathers. Instead, culture cultures assign responsibility for different household domain to women or men, and those gendered social arrangements influence how money is used. In United States, women bear great responsibility for food than men, and this is especially true in household with children. As a result, when mother control money, they are more likely than fathers to spend it on food, and their children are less likely to experience food insecurity. Other study done by Lemke (2002) in South Africa, which found that household attached to migrant men were more food secure. However, this might be due to income difference among households attached to migrant men and women, where household attached to migrant men have about three times the income of household attached to migrant women. While in the present study, although there was significant difference of remittance among male and female migrant worker, overall household income did not show significant different.

5.2. Immediate Causes of Household Food Insecurity

Household food insecurity can be determined by several immediate causes, such as food availability (household food production, food stock from purchasing, food/non food assistance) and coping strategy.

This study found that cultivation of food crops other than staple food (vegetables, fruits) was associated to household food security status. Household food production plays an important role on improving household food availability and dietary diversity. This issue is nowadays also considered as one of the most sustainable solutions to address problems of high household food insecurity and malnutrition by increasing household's access to diverse foods and consumption of micronutrient rich food (HKI Cambodia, 2007). Other study by Marsh (1998) in Bangladesh showed that home gardening contributes to household food security by providing direct access to food that can be harvested, prepared and fed to family members, often on a daily basis. Further, Modi et al (2006) found that wild

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vegetables could contribute significantly to the dietary requirements of rural households at Ezigeni.

In both household groups, staple food was type of food which the most available in the households, while fruits was the least available. Beside due to its function as the larger energy provider, this probably also due to the price of staple food which is cheaper than other kind of foods. Kirkpatrick and Tarasuk (2008) in a study in Canadian households found that lower income households purchased significantly fewer servings of milk products, fruits and vegetables than did higher income households. While Sanjur (1982) summarized that at low income level, starchy staples are the principle source of calorie. With income increases, starchy staples decline as principal sources of calories, and the intake of fats, oils, meat, fish and dairy products increases. In this study, food availability also had significant association to household food security. Household which had less than 3 groups of food were more susceptible to food insecurity. Other studies showed consistent results, although not directly discussing availability of those types of foods, but discussing the intake of those types of food. In a study from the US, Casey et al (2001) found that children from low-income food insufficient families consumed less fruit. Other consistent finding was found by Tarasuk (2001) that Canadian women from food insecure households reported lower consumption of vegetables, fruit, and meat than women from food secure households. Gulliford et al (2003) in Trinidad and Tobago found that food insecurity was associated with lower consumption of fruit and vegetables in adults.

Coping strategy was not significantly different among households attached to male and female migrant workers. Even specifically among food insecure households, coping strategy also showed no significant difference between household attached to male and female migrant workers. Purchased instant food was the most common coping actions done by both household groups. This action also found high in food secure households, although still significantly higher among food insecure households. Food items recoded during 24 hour food recall also confirm that instant noodle was consumed by most of the children. Aside from its cheaper price compared to other food, this may provide ambiguous information mainly for food secure households whether action of purchase instant

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food was taken due to limited money to access other food, or due to food preference. However, during focus group discussion with the spouses of migrant workers, they agreed that purchase instant food, in this case instant noodle, was one of coping strategies can be done when food and money is limited, since the price of instant noodle is cheap. Overall, there was significant association of coping strategy and household food security status. In bivariate analysis, households which had coping score higher than 20, were at higher risk for being food insecure.

5.3. Underlying Causes of Household Food Insecurity

Underlying causes which may determine household food security are economic access and physical access to food. In this study, both household groups have good economic access to food, which share less than 50% of per capita total expenditure for food expenditure. This finding also consistent with other studies, e.g. by Willow et al (2008) among aboriginal households, which found that food expenditures accounted for 32 percent of total household expenditures for food insecure households compared to 28 percent for food secure households. According to Ernst Engel, which is known as Engel's Law, as income increases, food spending also increases but the proportion of income devoted to food declines. This assumption was that food is one of the basic needs of human being for survival. Theoretically, if a household started from a point of zero income, any income it received would almost all be spent on food. As the household rises above a certain poverty level, other needs and wants, such as clothing and shelter, start to compete for household's income. The households spend more on food as its income rises, but it also increases its expenditure on other goods and service. As its income continue to grow, food expenditure continue to increase, but the increases become smaller and smaller and mostly reflect changes in the composition of total food purchases toward more expensive food items (Sanjur, 1982). Bivariate analysis showed that there was significant association of expenditure share on food and household food security status. Households which had more than 50% of food expenditure share on food, had higher risk for being food insecure.

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In term of physical access, the majority of the respondents from both groups stated that staple food, side dish, fruits, and vegetables were easy to obtain. Considering to their economic access to food and easiness to get those 4 groups of foods, there should be no problem on food availability. However, as already mention in the previous section, food availability of fruits among both households groups was low. This probably due to their unwillingness to spent more money for fruits, as it is usually expensive. Other indicator of physical access to food, market availability and distance to the market, showed that households attached to male migrant workers more likely had better access to market. However, there was no significant association between market availability and distance to the market with household food security.

5.4. Basic Causes of Household food Insecurity

Significant difference on the family structure was found among households attached to male and female migrant workers. The majority of the household attached to male migrant workers were nuclear family, while the majority households attached to female migrant workers were extended family. This can be understood, since generally, mainly in Indonesian cultural context, domestic domain of households such as food provisioning and child care usually are handled by women, therefore when women migrate, the role of women need to be replaced by other family member or relatives. Study by Scalabrini (2003) reveals that there is a variation in terms of gender roles when women migrate compared to men. When men migrate, the left behind wives assumed more responsibilities with their dual roles as fathers and mothers. But when women migrate, it appears that families go through more adjustments. This is not surprising because changes in women's roles often have more implications for the family than changes in men's roles. If women assume men's responsibilities when the men are not around, men do not as readily take up care giving.

This study also found that household size contributed to household food insecurity. Bivariate analysis showed that there was significant association between number of household member and household food insecurity. Households which have more than 4 household members had higher risk to

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become food insecure. It means that large size households are more likely to be food insecure than small size households. This finding was consistent with finding from other studies. Babatunde (2007) found that as the household size gets larger, the probability of food security decreases. Similarly, Rose (1999) found that larger Hispanic household had higher rate of food insecurity. Larger households require greater expenditures to meet consumption needs.

Before working as a migrant worker, the majority of male migrant workers were laborer and the female were housewives in their home country. It shows that economic background seems to be the reason behind their decision for working abroad. This also confirmed from the results of focus group discussion among the spouse of the migrant workers prior to this study. Most of the FGD participants said that their household economic condition is improved after their spouses worked as migrant worker. This study also showed that the remittance received by the households were around IDR 1,250,000 – IDR 1,500,000, which is higher than the regional minimum wages in Tulungagung District (IDR 870,000). Labor migration is one of strategy which was become popular in Indonesia since economic crisis, to improve better living standard. Studies showed that migration can help raise people from lower to lower-middle class socio-economic rank (ILO, 2004; De and ratna, 2005).

Some socio economic indicators were found higher among household attached to male migrant workers, including remittance and assets ownership. However, monthly income among both groups was not significantly different. Regarding the utilization of remittance, it was mainly allocated for primary needs. Utilization of remittance for pay loan was found slightly higher among households attached to female migrant workers, on the other hand, utilization for investment was slightly higher among household attached to male migrant workers. Significant difference was found on the utilization of remittance for saving, which was higher among households attached to male migrant workers. This finding showed that male and female have different pattern on the management of remittance, and therefore may influence their socio economic status. Gender influence the way in which remittances are spent or invested. Studies discovered a tendency amongst female migrants abroad to select another

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woman to receive and manage the remittances sent back to the household. This decision is often based on the belief that female remittance recipients will use these resources for the collective good of the household, whereas their male counterparts are more likely to mismanage them or spend them on their own personal needs and desires (UN-INSTRAW, 2006).

5.5. Factors Associated to Household Food Security Status

Multivariate analysis showed that income per capita per month which less than IDR 500,000, non/semi permanent housing, availability of food in the household which was less than 3 types of food, coping score of more than 20, ownership of electronic assets less than 5 and household attached to female migrant workers were significantly associated to household food insecurity.

This finding indicated that economic factors play an important role in achieving household food security, since income is a critical determinant of a household's ability to obtain food. Kaiser (2004) insisted that low income is one of the strongest predictors of food insecurity. While Indonesian Central Food Security Agency (2009) found that in general, more food insecure and vulnerable households were found among households without regular earnings. Food insecurity in rural and urban areas was mainly attributed to limited food access due to irregular and low remuneration cash income, also to limited ownership of assets.

This study also proved the hypotheses that gender of the migrant worker is the predictor of household food security status. This gender difference was mainly due to the tendency of spending the remittance and income differently among men and women. Societal and cultural norms may assign women the role of "gatekeepers", in which they ensure that household member, especially children, receive an adequate share of available food. Alternatively, women may prefer to spend more on children's daily needs because they spend more time with children (IFPRI, 1995). However, among others explanation of gender difference on household resource allocation and household food security, Kenney (2008) had an interesting perspective, which noted that mothers are not inherently more likely to spent on food (or education) than fathers. Instead, cultures assign responsibility

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for different household domain to women or men, and those gendered social arrangements influence how money is used. For example in United States, women bear great responsibility for food than men, and this is especially true in household with children. As a result, when mother control money, they are more likely than fathers to spend it on food. and their children are less likely to experience food insecurity. This probably also become a better explanation for Indonesian context, mainly in this study area. As stated by Megawangi (2007), Javanese family system put husband as the head of the family, and the wife as the household manager who responsible for household daily activities. In the domestic domain, female autonomy has been widely recognized. It was the wife, who had control of family finances, and hence made many of the family decisions, including on food.

5.6. Child Care Practice and Resources for Care

Caregiver's responsive feeding, preference to formal/ informal health seeking facilities and appropriateness of response when the child is crying while the caregiver is working were significantly different among household attached to male and female migrant workers.

This study showed that household attached to female migrant workers, which means that the caregivers were mostly the mother of the children (female), tend to give better quality of child caring practice. They had more varied response to feed the child when the child had poor appetite, more appropriate response when the child is crying while the caregiver is working (such as leave the work and hold the child or ask somebody to care the child) and prefer to bring the child to formal health seeking facilities when the child is getting illness.

Child care practice is influenced by resources for care. Knowledge was one of important resources for care, which in this study found significantly different among caregivers from household attached to male migrant workers (knowledge was found higher among caregiver attached to male migrant workers). Probably, in this study, this factor contributed to the different of response to child feeding and caring among caregivers attached to male and female migrant workers. Caregivers from household attached to female migrant workers also felt more

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overburdened by daily domestic works, although they had more people available to help them doing housework.

5.7. Dietary Intake, Health Status and Nutritional Status of the Children

Although response to child's poor appetite and caregiver's knowledge was found significantly different among caregivers attached to male and female migrant workers, children's energy and protein intake was not significantly different among both male and female groups. Most of the children in this study were older children which usually independent in their meal intake, therefore dietary intake was not significantly different among children attached to male and female migrant workers. Child health status was also not significantly different. This maybe one of the explanation why nutritional status was not significantly different among children attached to male and female migrant workers.

5.8. Determinant Factors of Child Nutritional Status

In this study, determinant factor of child nutritional status was analyzed separately between under-five children and children age 5-10 years old. This study hypothesized that gender; household food security and care are significant predictors of child nutritional status. However, this study does not found that gender and household food security significantly predict child nutritional status in under-five children and older children. Only some child care practice and resources for care, were found significantly predict child nutritional status. In under-five children, score on responsive feeding and caregiver's feeling overburden of daily domestic work were significantly predict child's underweight and stunting, but not wasting. Wasting in under-five children was significantly predicted by energy adequacy. This probably because wasting is an acute indicator of child nutritional status, therefore more influenced by direct factor related to dietary intake.

Similar result also found in older children, where thinness as an acute indicator of child nutritional status was predicted by factor related to dietary intake, in this case, protein adequacy. However, none of variables analyzed as the predictors of stunting, were significantly predict stunting among older children.

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PART 6
CONCLUSION AND RECOMMENDATION

6.1. Conclusions

Overall, the prevalence of household food insecurity among migrant workers in Tulungagung, East Java, was 25.5%, consist of 24.4% food insecure without hunger and 0.9% food insecure with moderate hunger. There was no food insecure with severe hunger. The prevalence of household food security was significantly different among households attached to male and female migrant workers (17.8% compared to 32.9%, among household attached to male and female migrant workers, respectively). This study concluded that gender of the migrant worker is the predictor of household food security status.

The immediate causes of household food insecurity were food availability less than 3 food groups and coping score more than 20; underlying causes of household food insecurity was not found after multivariate analysis; and the basic causes of household food insecurity were: income per capita les than the median value (IDR 500,000), assets ownership (electronic goods) less than 5 types, other assets ownership less than 2, semi/permanent housing condition, and remittance per month less than median value (IDR 1,500,000).

Child care practice and resources for care which found significantly different among male and female migrant workers were score on responsive feeding, preference to formal/informal health seeking facilities for the child during illness, appropriateness of response when the child is crying while the caregiver is working and knowledge on proper care, which all were found better in household attached to male migrant workers. Other different factors are feeling overburden of daily domestic works, which found higher among household attached to female migrant workers, although they have more people help them doing household works.

Nutritional status in under-five children as well as older children were not significantly different among male and female migrant workers, however, in some indicators of child nutritional status, there were tendency that children attached to male migrant workers had better nutritional status.

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Household food security and gender of the migrant worker were not significant predictors of child nutritional status in this study. However, in this study, gender is related to care and resources for care and care was associated with nutritional status.

6.2. Recommendations

6.2.1. Recommendation for the Relevance Institution

1. Gender was found significantly associated to household food security, and it is more likely due to the better management of economic resources by women. And since there is high utilization of agency for the departure of migrant workers, it would be better to involve the role of agency, to give support, training or motivation, for the migrant workers and the family on the proper management of remittance, such as providing options on using remittance for economic and social investment (education, health, income generating activity).
2. Although this study did not show significant different of child nutritional status among children attached to male and female migrant workers, there was tendency that child attached to male migrant worker had better nutritional status, and some indicators of child care practice found better in household attached to male migrant workers. Therefore, for prevention, nutrition intervention which formerly tends to target mothers, now should also expand to target households which are left by the mothers, to equip the alternate caregiver with knowledge and skill on proper care

6.2.2. Recommendation for the Households

1. Since gender was found significantly associated to household food security, there should become a consideration to the households who will send their family member to work abroad. If for certain reason, woman should migrate and the man stays, man should be ready to take up the role of woman and do more "adjustment" to play double role at the households. Otherwise, there should be other family member who will replace the role of mothers as the "gatekeeper" of food provisioning in the house.

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2. Since most indicators of child caring showed that child care practice was better among household attached to male migrant workers (where the mothers stay at home), decision to send father or mother for working abroad should also consider their children. If they have young children (<5 years old) who still need urgent child-care from mother, it will be better if the mother does not leave the child for working abroad. However, if due to urgent reason, the household should send the mother to work as a migrant worker, mother may leave the child if the age of the children is already more than 2 years old (no longer breastfed), and there should be other family member who will replace the role of mothers as the caregiver.

6.2.3. Recommendation for Further Study

This study was done only in migrant workers, by comparing gender of the migrant workers. Further study on household food security, child caring and child nutritional status among households attached to migrant workers need to be conducted by involving control groups, i.e. household attached to non migrant workers, to confirm whether labor migration and remittance really a significant contributor to household food security, hence further policy can be made by considering the benefit as well as negative side effect of labor migration.

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COMPARISON OF HOUSEHOLD FOOD SECURITY STATUS AMONG MALE AND FEMALE MIGRANT WORKERS IN TULUNGAGUNG DISTRICT, EAST JAVA

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Abstract

Objective **:** To compare household food security status among households attached to male and female migrant workers

Method: Cross sectional study was conducted to 225 households attached to male migrant workers and 225 households attached to female migrant workers, which had children age 6 months to 10 years old, and has been working as migrant worker for at least 6 months. The household was selected randomly, and the head was interviewed using US-FSSM questionnaire.

Finding: The risk of household attached to female migrant workers to be food insecure was 2.72 times higher than the risk household attached to male migrant workers. Other factors which increase the risk of households to become food insecure were household income per capita which was less than IDR 500,000, household with non/semi permanent housing, household which only had less than 3 food groups available, household had coping score more than 20, and household owned less than 5 kind of electronic goods.

Conclusion: Gender of the migrant worker is the predictor of household food security status.

Keywords: Gender, household food security, migrant worker

INTRODUCTION

Food security becomes an emerging issue since people rely on food to maintain their life. FAO (1996) defined food security as a condition which is exist when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (World Food Summit, Rome, 1996).

Household food insecurity is still prevalent in Indonesia. Studies in several areas showed that the percentage of food secure household was quite low. In Java, only 20% household with under-five children was food secure during economic crisis (Studdert et al, 2001). Other research by Usfar et al (2005) in two urban and four rural areas in Indonesia showed that the percentage of food secure households in urban and rural area were 23% and 16%, respectively.

Generally, food availability and accessibility are the main causes of food insecurity. Regarding accessibility, poverty is a predominant factor that influences food security in Indonesia. Increasing number of poverty in Indonesia was mainly triggered by economic crisis in 1997, causing general decline in employment (Sukirman, 2001). To cope with the crisis, many Indonesians try to find a better job and income by working as migrant workers.

Remittances are one of the most visible developmental effects of migration. There is evidence that remittance alleviate poverty at the household level in some countries, funding child schooling, reducing child labour, increasing family health and expanding durable good ownership (Yang, 2004 in Omelaniuk, 2009) and as well as to meet the basic needs of households, including food, housing, and clothing (Hamid, 2007).

Increasing number of female workers, draw attention on the gender role on household livelihood. There is evidence that remittance flows and expenditure patterns can be highly gender-specific (Omeaniuk, 2009). Analyses by the World Bank showed that remittances sent and/or received by females can have a positive effect on health, education and mortality of children. Women tend to prioritize nutrition, health and education for the family over savings and investments for the future.

Several studies showed that remittances contributed to the economic improvements of the households, which may also improve household food security status. However, Indonesia which sent high number of migrant worker abroad, still have very limited study on this. And since there is culturally constructed roles that men and women play to influence the way in which they invest the remittances, household food security may also influenced by gender out migration. Therefore, study on household food security status among migrant workers in Indonesia need to be conducted, and comparing household attached to male and female migrant workers will be an interesting issue.

METHODS

This cross sectional study was conducted to household attached to male or female migrant workers (as parents), who had children from the age of 6 months to 10 years old in Tulungagung, East Java, Indonesia, from January to March 2010.

Subject: We randomly selected 225 households attached to male and 225 household attached to female migrant workers, proportionally from 10 sub districts which have higher number of migrant workers among other sub districts.

Data collection: Interview using structured questionnaire was conducted to obtain data on general characteristics of the migration, demography, socio economic of the households, food availability, food accessibility, household food production, and assistance received by the households. Coping strategy index was applied to obtain household coping score, and food security status was assessed using US-FSSM

Data analysis: Statistical analysis was carried out with SPSS for Windows Ver. 15.0. Difference of food security status and the determinant factors among household attached to male and female migrant workers was tested using bivariate analysis. Bivariat analysis was also applied to test association between household food security and its determinant factors. Then, factors which showed significant association were entered into multivariate analysis, with gender of the migrant worker.

Ethical Consideration: Ethical clearance was obtained from the ethical committee of Faculty of Medicine, University of Indonesia. Respondents were assessed only after they give their informed consent. Participation of respondents was voluntary and all the information they give to the researchers was treated confidentially and is only used for the purpose of this study.

RESULTS

General characteristics of the migrant workers are shown in **table 1**. The mean age of the migrant workers were 34.71±6.43, has been working for around 2 years, almost all of them are legal migrant workers. Most of male migrant workers worked as building or farming labor, and therefore most of them worked in Malaysia which provides large employment in this area. While most of the female worked as housemaid, and the largest percentage was in Taiwan.

Most of the households were food secure. In total, only 25.3% of the households were food insecure. Households attached to male migrant workers were more food secure compared to those attached to female. Similar pattern also found in child food security status (**table 2**).

Regarding food production and food availability, overall, 51.9% households did not have any food crops, and 53.3% households have at least 1 livestock. Ownership of cow and goat was found higher among household attached to female migrant workers (**table 3**). Fruits were the least available food in the household (18.2%), followed by milk (36.4). Coping score was found slightly higher among households attached to male migrant workers, however there was no significant difference among both household groups. The type of coping actions done by both household groups were similar, except for coping action of borrowing food, which was higher among household attached to male migrant workers. Purchased instant food was the most common coping actions done by both household groups, followed by buy cheaper but less preferred food, purchase food on credit, and mixes the staple food (**table 4**).

Regarding food accessibility, 52.4% households had good economic access to food. Grocery facilities such as market, local shop, and street vendors can be found easily in the area of both groups. Physical access to the market was significantly different among both household groups, which was better among households attached to male migrant workers, in term of market availability and distance between the house and the market.

Family structure of households attached to male and female migrant workers were significantly different. The majority of household attached to male migrant workers were nuclear family; while those attached to female migrant workers were extended family. When one of the parents worked abroad as a migrant worker, household headship was commonly taken over by the spouse. The initial occupation of the male migrant workers was laborer, and the females were housewife (table 7).

Household food expenditure per capita, total expenditure per capita, and amount of remittance sent per month were significantly higher among household attached to male migrant workers. However, income per capita was not significantly different (table 8). Assets ownership (electronic goods and other assets) was found significantly higher among households attached to male migrant workers. Most of the migrant workers sent their remittance in the form of money, and mostly was utilized by the households for primary needs. Remittance was also utilized for saving (37.9%), pay loan (18.1%) and investment (16.9%). Specifically for saving, there was significant difference among households attached to male and female migrant workers, which was found higher among household attached to male migrant workers. High social capital index was found

higher among household attached to female migrant workers, but the difference was not statistically significant.

Logistic regression was conducted to assess predictors of household food insecurity among male and female migrant workers. Factors which were significantly associated to household food insecurity from bivariate analysis were included in the multivariate analysis. The analysis found that income per capita per month which les than IDR 500,000, non/semi permanent housing, availability of food in the household which was less than 3 types of food, coping score of more than 20, ownership of electronic assets less than 5 and household attached to female migrant workers were significantly associated to household food insecurity (table 9).

DISCUSSION

The prevalence of food insecure households among households attached to migrant workers in Tulungagung District was 25.3%, which is quite low compared to the other studies about household food security which already done in Indonesia. Study done by Usfar et al (2005) in rural and urban areas in Indonesia found that 77% households in urban and 84% households in rural was food insecure. Indonesia central food security agency in 2009, through Food and Nutrition Security Monitoring System, found that 36% households in 5 selected districts in East Java were vulnerable to food insecurity. This relatively low prevalence of household food insecurity in Tulungagung district, probably due to the population surveyed in this study was not general population, but specifically households attached to migrant workers. The household received remittance from migrant workers, which may contribute to the improvement of economic status of

the households. Study done in Philippine (UN-INSTRAW, 2006; 2007) found that households that benefits from remittances have seen various improvements in food security. Remittances provide households with the purchasing power to obtain foods. And it is confirmed by the result in this study, that almost all the households mentioned food as one of the uses of remittances. The ADB Southeast Asian Worker's Remittance Study also recorded food as one of the 3 top spending from remittance, along with house and education (ADB, 2006).

This study found that food security status of households attached to male migrant workers was higher than the female. This finding probably because women are more likely to manage household resources for the welfare of the household member. Empirical evidence by UN-INSTRAW (2008) showed that placing economic resources in the hand of women increases food security and overall welfare of the households. Haddad and Hoddinott (1995), using the Cote d'Ivoire Living Standards Survey, show that share of income controlled by females has a positive and significant effect on the budget share expenditure on food. Other study done by Lemke (2002) in South Africa, found that household attached to migrant men were more food secure. However, this might be due to income difference among households attached to migrant men and women, where household attached to migrant men have about three times the income of household attached to migrant women. While in the present study, although there was significant difference of remittance and asset ownership among male and female migrant worker, overall household income did not show significant different. Food accessibility in term of economic access was also not significantly different among both groups. Although physical access to the market was

different, the majority of the households from both groups agree that staple food, side dish, fruits, and vegetables were physically easy to obtain.

Controlling for other factors, this study proved the hypotheses that gender of the migrant worker is the predictor of household food security status. Socio economic indicators were associated to household food security status. However, since there was no significant different of income per capita per month among both male and female group, this difference in household food security status was probably due to the different tendency of spending the remittance and income among men and women. Societal and cultural norms may assign women the role of "gatekeepers", in which they ensure that household member, especially children, receive an adequate share of available food. Alternatively, women may prefer to spend more on children's daily needs because they spend more time with children (IFPRI, 1995). However, among others explanation of gender difference on household resource allocation and household food security, Kenney (2008) had an interesting perspective, which noted that mothers are not inherently more likely to spent on food (or education) than fathers. Instead, cultures assign responsibility for different household domain to women or men, and those gendered social arrangements influence how money is used. For example in United States, women bear great responsibility for food than men, and this is especially true in household with children. As a result, when mother control money, they are more likely than fathers to spend it on food, and their children are less likely to experience food insecurity. This probably also become a better explanation for Indonesian context, mainly in this study area. As stated by Megawangi (2007), Javanese family system put husband as the head of the family, and the wife as the

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household manager who responsible for household daily activities. In the domestic domain, female autonomy has been widely recognized. It was the wife, who had control of family finances, and hence made many of the family decisions, including on food.

CONCLUSION

The prevalence of household food insecurity among household attached to migrant workers in Tulungagung, East Java was 25.5%, and was significantly different among households attached to male and female migrant workers, which revealed that gender of the migrant worker is the predictor of household food security status.

RECOMMENDATION

Gender was found significantly associated to household food security, and it is more likely due to the better management of economic resources by women. And since there is high utilization of agency for the departure of migrant workers, it would be better to involve the role of agency, to give support, training or motivation, for the migrant workers and the family on the proper management of remittance, such as providing options on using remittance for economic and social investment (education, health, income generating activity). Since gender of the migrant workers contributes to household food security status, households should also consider on deciding who will leave the house for being migrant workers. If for certain reason, woman should migrate and the man stays, man should be ready to take up the role of woman and do more "adjustment" to play double role at the

households. Otherwise, there should be other family member who will replace the role of mothers as the "gatekeeper" of food provisioning in the house.

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Table 1. Distribution of characteristics of the migrant worker

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Age of the migrant workers, *mean±SD*	37.20±6.40	32.23±5.43	34.71±6.43
Length of work, months, *median (min-max)*	24 (6-240)	18 (6-144)	24 (6-240)
Arrangement of the departure, *n (%)*[1]			
Agency	162 (72.0)	213 (94.7)	375 (83.3)
Self arranged	49 (21.8)	9 (4.0)	58 (12.9)
Others	14 (6.2)	3 (1.3)	17 (3.8)
Legality, legal, *n (%)*	208 (97.2)	214 (98.6)	422 (97.9)

[1]chi square test (p<0.001)

Table 2. Food security status of the household and the children

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Score of US FSSM, *median (min-max)*	1 (0-9)	1 (0-9)	1 (0-9)
Household Food security status, *n (%)*[1*]			
Food secure	185 (82.2)	151 (67.1)	336 (74.7)
Food insecure without hunger	38 (16.9)	72 (32.0)	10 (24.4)
Food insecure with moderate hunger	2 (0.9)	2 (0.9)	4 (0.9)
Score of Child FSSM, *median (min-max)*	0 (0-4)	0 (0-4)	0 (0-4)
Children's food security status, *n (%)*[1]			
High food secure	165 (73.3)	140 (62.2)	305 (67.8)
Marginally food secure	40 (17.8)	34 (15.1)	74 (16.4)
Low food secure	20 (8.9)	51 (22.7)	71 (15.8)

[1*]chi square test (p<0.001), regrouped into 2 categories: food secure and food insecure
[1]chi square test (p<0.001)

Table 3. Household food production

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Household cultivate food crops, *n (%)*			
Rice	90 (40.0)	73 (32.4)	163 (36.2)
Corn	16 (7.1)	22 (9.8)	38 (8.4)
Roots and tubers	19 (8.4)	19 (8.5)	38 (8.5)
Legumes	11 (4.9)	9 (4.0)	20 (4.5)
Fruits	30 (13.3)	29 (12.9)	59 (13.1)
Vegetables	29 (12.9)	26 (11.6)	55 (12.2)
Number of food crops cultivated by the HHs, *n (%)*			
No food crops	115 (51.1)	118 (52.7)	233 (51.9)
1-3 food crops	101 (44.9)	100 (44.6)	201 (44.8)
4-6 food crops	9 (4.0)	6 (2.7)	15 (3.3)
Household raise livestock, *n (%)*			
Poultry	98 (43.6)	95 (42.2)	193 (42.9)
Goat[1]	26 (11.6)	43 (19.2)	69 (15.4)
Cow[1]	16 (7.1)	33 (14.7)	49 (10.9)
Fish	4 (1.8)	2 (0.9)	6 (1.3)
Number of livestock raised by the households, *n (%)*			
No livestock	112 (49.8)	98 (43.6)	210 (46.7)
Have at least 1 type of livestock	113 (50.2)	127 (56.4)	240 (53.3)

[1]chi square test (p<0.05)

Table 4. Coping strategy

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Coping score, *median (min-max)*	20 (0-132)	16 (0-108)	20 (0-132)
Coping actions, yes, *n (%)*			
Buy cheaper but less preferred food	107 (47.6)	109 (48.4)	216 (48.0)
Borrow food[2]	51 (22.7)	33 (14.7)	84 (18.7)
Purchase food on credit	65 (28.9)	65 (28.9)	130 (28.9)
Gather wild food	51 (22.7)	34 (15.1)	85 (18.9)
Consume seed stock	5 (22.2)	11 (4.9)	16 (3.60
Limit portion size at mealtime	10 (4.4)	13 (5.8)	23 (5.1)
Restrict consumption by adult in order for small children to eat	15 (6.7)	17 (7.6)	32 (7.1)
Purchase instant food	158 (70.2)	156 (69.3)	314 (69.8)
Reduce number of meals eaten in a day	25 (11.1)	26 (11.6)	51 (11.3)
Skip entire day without eating	2 (0.9)	1 (0.4)	3 (0.7)
Change the staple food	33 (14.7)	33 (14.7)	66 (14.7)
Mix the staple food	28 (12.4)	31 (13.8)	59 (13.1)

[2]Chi square test ($p<0.05$)

Tabel 5. Coping strategies among food secure and food insecure households

Coping strategy, %	MMW (n=225)		FMW (n=225)		Total (n=450)	
	FS (n=185)	FIS (n=40)	FS (n=151)	FIS (n=74)	FS (n=336)	FIS (n=114)
Skip entire day without eating	0	5	0	1.4	0	2.6
Limit portion size[1]	3.2	10	2	13.5	2.7	12.3
Restrict consumption by adult[1]	5.4	12.5	2	18.9	3.9	16.7
Consume seed stock	2.5	2.2	0.7	13.5	1.5	9.6
Reduce number of meals eaten in a day[ns]	10.8	12.5	9.9	14.9	10.4	14
Mix the staple food[1]	10.8	20	6.6	28.4	11	25.4
Change the staple food[1]	23	25	9.3	25.7	8.9	25.4
Gather wild food[1]	16.2	52.5	6.6	32.4	11.9	39.5
Borrow food[1]	17.3	47.5	6	32.4	12.2	37.7
Purchase food on credit[2]	28.1	32.5	23.8	39.2	26.2	36.8
Buy cheaper but less preferred food[1]	39.5	85	35.1	75.7	37.5	78.9
Purchase instant food[2]	66.5	87.5	67.5	73	67	78.1

[1]chi square test ($p<0.001$)
[2]chi square test ($p<0.05$)
[ns]not significant

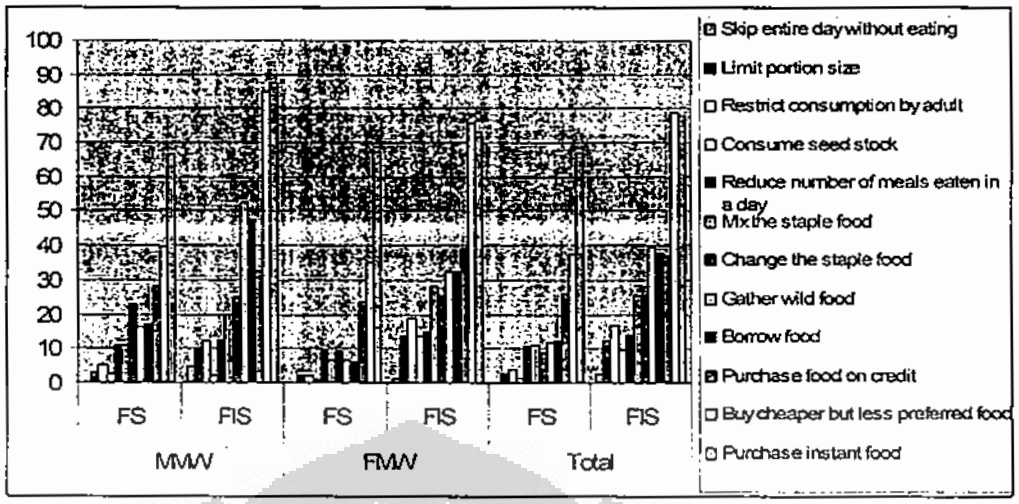

Figure 4. Coping strategy of household attached to male and female migrant workers, according to different food security status

Table 6. Economic and Physical access to food

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Percent per capita food expenditure from per capita total expenditure, *n (%)*			
Poor (>65%)	38 (16.9)	34 (15.1)	72 (16.0)
Average (50-65%)	75 (33.3)	67 (29.8)	142 (31.6)
Good (< 50%)	112 (49.8)	124 (55.1)	236 (52.4)
Availability or shopping facilities, *n (%)*			
Market[2]	139 (61.8)	106 (47.1)	245 (54.4)
Local shop	216 (96.0)	217 (96.4)	433 (96.2)
Street vendor	217 (96.4)	222 (98.7)	439 (97.6)
Supermarket	55 (24.4)	48 (21.3)	103 (22.9)
Distance house – market, *n (%)*[1]			
≤ 2 km	166 (73.8)	109 (48.4)	275 (61.1)
≥ 2 km	59 (26.2)	116 (51.6)	175 (38.9)
Time spent to reach the market, *minutes, median (min-max)*	10 (5-60)	15 (5-120)	15 (5-120)

[1]Chi square test (p<0.001)
[2]Chi square test (p<0.01)

Table 7. Distribution of socio demographic characteristics of the households

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Number of household member, *median (Percentile 25th, 75th)*[1]	4 (3, 4)	4 (3, 5)	4 (3, 5)
Number of children <10 yrs old, *median (Percentile 25th, 75th)*	1 (1, 1)	1 (1, 1)	1 (1, 1)
Type of family, nuclear, *n (%)*[2]	145 (64.4)	102 (45.3)	247 (54.9)
Head of the Household, *n (%)*			
Father	0 (0)	163 (72.4)	163 (36.2)
Mother	179 (79.6)	0 (0)	179 (39.8)
Grandmother	1 (0.4)	27 (12.0)	28 (6.2)
Grandfather	45 (20.0)	25 (11.1)	70 (15.6)
Others	0 (0)	10 (4.4)	10 (4.4)

Education of the migrant worker, *n (%)*			
No or <3 years of schooling	3 (1.3)	1 (0.4)	4 (0.9)
Elementary school	97 (43.1)	81 (36.0)	178 (39.6)
Junior high school	79 (35.1)	97 (43.1)	176 (39.1)
Senior high school	45 (20.0)	45 (20.00)	90 (20.0)
University	1 (0.4)	1 (0.4)	2 (0.4)
Education of the spouse, *n (%)*			
No or <3 years of schooling	2 (0.9)	4 (1.8)	6 (1.3)
Elementary school	56 (24.9)	97 (43.1)	153 (34.0)
Junior high school	99 (44.0)	80 (35.6)	179 (39.8)
Senior high school	60 (26.7)	41 (18.2)	101 (22.4)
University	8 (3.6)	3 (1.3)	11 (2.4)
Initial occupation of the migrant worker, *n (%)*			
Farmer/fisherman (land/boat owner)	39 (17.3)	12 (5.4)	51 (11.4)
Labor	126 (56.0)	32 (14.3)	158 (35.2)
Government employee	0	1 (0.4)	1 (0.2)
Private employee	18 (8.0)	14 (6.3)	32 (7.1)
Housewife	0	159 (71.0)	159 (35.4)
Unemployed	32 (14.2)	2 (0.9)	34 (7.6)
Others	10 (4.4)	4 (1.80	14 (3.1)
Occupation of the spouse, *n (%)*			
Farmer/fisherman (land/boat owner)	10 (4.5)	34 (16.7)	44 (10.3)
Labor	24 (10.7)	104 (51.2)	128 (30.0)
Government employee	2 (0.9)	3 (1.5)	5 (1.2)
Private employee	24 (10.7)	34 (16.7)	58 (13.6)
Housewife	159 (71.0)	0	159 (37.2)
Unemployed	0	18 (8.9)	18 (4.2)
Others	5 (2.2)	10 (4.9)	15 (3.5)

[1]Mann-Whitney test (p<0.001)
[2]Chi square test (p<0.001)

Table 8. Distribution of socio economic characteristics of the households

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Household income, per capita per months, *median (min-max)*	500.000 (50.000-2.266.667)	466.667 (60.000-3.000.000)	500.000 (50.000-3.000.000)
Non food expenditure with saving, per capita per months, *median (min-max)*	148.283 (31.883-1.266.300)	149.750 (11.500-1.414.200)	148.562 (11.500-1.414.200)
Non food expenditure without saving, per capita per months, *median (min-max)*	128.100 (31.883-491.000)	117.225 (11.500-598.400)	122.158 (11.500-598.400)
Household food expenditure, per capita per months, *median (min-max)*[3]	151.125 (37.333-375.000)	128.000 (40.250-535.000)	137.291 (37.333-535.000)
Total expenditure, per capita per months, *median (min-max)*[3]	321.166 (70.900-1.481.667)	272.200 (66.333-1.949.200)	298.631 (66.333-1.949.200)
Remittance per month[3]	1.500.000 (83.300-7.000.000)	1.250.000 (41.600-7.000.000)	1.500.000 (41.600-10.000.000
Assets ownership			
Number of asset (electronic goods), *n (%)*[1]			
≤ 5	128 (56.9)	166 (73.8)	294 (65.3)
>5	97 (43.1)	59 (26.2)	156 (34.7)
Number of other assets, *n (%)*[2]			

≤ 2	126 (56.0)	154 (68.4)	280 (62.2)
>2	99 (44.0)	71 (31.6)	170 (37.8)
Remittance			
Utilization of remittance (n=414)			
Pay loan	38 (17.1)	37 (19.3)	75 (18.1)
Primary need: food	222 (100)	183 (95.3)	405 (97.8)
Primary need: non food	217 (97.7)	180 (93.8)	397 (95.9)
Saving[1]	98 (44.1)	59 (30.7)	157 (37.9)
Investment	43 (19.4)	27 (14.1)	70 (16.9)

[1]Chi square test (p<0.001)
[2]Chi square test (p<0.01)
[3]Mann-Whitney test (p<0.05)

Table 9. Multivariate analysis of risk factors for household food insecurity among male and female migrant workers

Variables	Exp [B]	95% CI for Exp [B]	P
Per capita food expenditure from per capita total expenditure ≥ 50%	1.150	0.648 – 2.042	0.633
Income per capita per months < IDR 500.000	2.242	1.165 – 4.314	0.016*
Education of the spouse < 9 years of schooling	1.350	0.693 – 2.629	0.378
Remittance < 1,500,000 per month	1.450	0.511 – 4.112	0.485
Housing condition: semi/non permanent	2.336	1.265 – 4.314	0.007*
Number of household member > 4	1.171	0.660 – 2.078	0.589
Household experience more than 1 months with inadequate food	0.807	0.449 – 1.450	0.474
Less than 3 types of food available in the house yesterday	1.963	1.109 – 3.474	0.021*
Household did not cultivate food crops other than staple food	0.589	0.315 – 1.100	0.096
Coping score ≥ 20	10.818	5.558 – 21.057	0.000*
Asset (electronic goods) ≤ 5	4.570	2.252 – 9.275	0.000*
Asset (other assets) ≤ 2	0.960	0.527 – 1.750	0.894
Household attached to female migrant worker	2.722	1.534 – 4.830	0.001*

*logistic regression; Cox & Snell R square=0.301; Nagelkerke R square=0.443

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MANUSCRIPT FOR PUBLICATION

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COMPARISON OF CHILD CARE PRACTICE AMONG CHILDREN LEFT BY MALE AND FEMALE MIGRANT WORKERS IN TULUNGAGUNG DISTRICT, EAST JAVA

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Food security ..., Dini Ririn Andrias, FKUI, 2010

Abstract

Objective **:** To compare child care practice among children left by male and female migrant workers

Method: Cross sectional study was conducted to 225 households attached to male migrant workers and 225 households attached to female migrant workers, which had children age 6 months to 10 years old, and has been working as migrant worker for at least 6 months. The household was selected randomly, and interview was done to the head of the households and the main child caregivers.

Finding: Children left by male migrant workers were mostly cared by their mother, while children who left by female migrant workers were mostly cared by their father and grandmothers. Caregivers attached to male migrant workers had significantly higher knowledge on proper child care. More caregivers from household attached to female migrant workers felt overburdened by daily domestic works, although they had more people which may help them doing housework compared to caregivers attached to male migrant workers. Caregivers from household attached to male migrant workers had significantly higher variation of response when the child had poor appetite, more appropriate response when the child was crying, and preferred formal health seeking facilities when child getting ill.

Conclusion: Gender of the migrant worker influence the quality of child caring

Keywords: Gender, child care, migrant worker

INTRODUCTION

Labor migration has become a worldwide phenomenon, as an effort to search for better job opportunities and to provide better future to their families. In Indonesia, increasing number of migrant workers was triggered by economic crisis in 1997 which caused general decline in employment and increased people living in poverty (Sukirman, 2001). To cope with the crisis, many Indonesians try to find a better job and income by working as migrant workers. Ananta (2001) and Firdausy (2005) agreed that population migration had been an important coping mechanism during the crisis in Indonesia. Economic crisis not only increased the number of Indonesian people working abroad, but also contributed to the increased of international female labor migrants compared to male. In 1995-1996, there were 48 male migrants in every 100 female migrants. The ratio decreased to 20 male migrants in every 100 female migrants in1997-1998 (after the crisis) (Raharto, 2002).

Remittances are one of the most visible developmental effects of migration. There is evidence that remittance alleviate poverty at the household level in some countries, funding child schooling, reducing child labour, increasing family health and expanding durable good ownership (Yang, 2004 in Omelaniuk, 2009) and as well as to meet the basic needs of households, including food, housing, and clothing (Hamid, 2007). However, beside the positive impacts results in migration, negative forces associated with the burden of the migrant labor system are also well documented.

The major concern of migration impacts is the social costs of migration specifically to the children left behind. A study by Scalabrini (2003) reveals that

there is a variation in terms of gender roles when women migrate compared to men. When men migrate, the left behind wives assumed more responsibilities with their dual roles as fathers and mothers. But when women migrate, it appears that families go through more adjustments. This is not surprising, because changes in women's roles often have more implications for the family than changes in men's roles. If women assume men's responsibilities when the men are not around, men do not as readily take up care giving. This issue is become emerging since quality of care highly determines health and nutritional status of children. Therefore, study on about child care practice for children left by migrant workers is need to be conducted, by analyzing gender difference of the migrant workers.

METHODS

This cross sectional study was conducted to household attached to male or female migrant workers (as parents), who had children from the age of 6 months to 10 years old in Tulungagung, East Java, Indonesia, from January to March 2010.

Subject: We randomly selected 225 households attached to male and 225 household attached to female migrant workers, proportionally from 10 sub districts which have higher number of migrant workers among other sub districts.

Data collection: Interview using structured questionnaire was conducted to obtain data on general characteristics of the migration, demography, socio economic of the households, resources for care and child care practice.

Data analysis: Statistical analysis was carried out with SPSS for Windows Ver. 15.0. Difference of resources for care and child care practice given by the

caregivers attached to male and female migrant workers was tested using bivariate analysis.

Ethical Consideration: Ethical clearance was obtained from the ethical committee of Faculty of Medicine, University of Indonesia. Respondents were assessed only after they give their informed consent. Participation of respondents was voluntary and all the information they give to the researchers was treated confidentially and is only used for the purpose of this study.

RESULTS

The mean age of the migrant workers were slightly higher among male compared to female migrant workers (37.20±6.40 among male and 32.23±5.43 among female migrant workers), however there was no significant difference. More than fifty percent of the children were at the age of more than five years old, with the mean age 66.61±30.84, and there was significant difference in the mean age and age group of the child left by male and female migrant workers. Female migrant workers tend to leave older children, as shown in **table 1**. When fathers leave the child for working abroad, child caring was handled by the mother (spouse). But when the mothers leave the child, grandparents plays an important role in child caring. There was significant difference of the caregiver among households attached to male and female migrant workers.

The majority of migrant workers have been working for around 2 years, and almost all of them are legal migrant workers. Most of male migrant workers worked as building or farming labor, and therefore most of them worked in

Malaysia which provides large employment in this area. While most of the female worked as housemaid, and the largest percentage was in Taiwan (data not shown).

Regarding resources for care, caregiver's knowledge on proper care among caregivers from household attached to male migrant workers was significantly higher than to the female. Caregiver from household attached to female migrant workers felt more overburdened by daily domestic workers compared to the male. However, most of them have other people to help them doing housework. Alternate caregivers were significantly different among household attached to male and female migrant workers. Household attached to male migrant workers rely on grand parents as the alternate caregivers, while household attached to female migrant workers usually ask other family member/relatives to become the alternate caregiver, since grand parents were usually already become the main caregivers. The majority of caregivers from both group got emotional support if they face general problems or child care problems. Mental health of the caregivers was quite good, where most of them have minimal metal health problems. Nutritional status of the caregivers was not different among both groups (**table 2** and **table 3**).

Some indicators of child care practice showed significant different among caregivers attached to male and female migrant workers. Caregivers attached to male migrant workers had significantly higher knowledge on proper child care. More caregivers from household attached to female migrant workers felt overburdened by daily domestic works, although they had more people which may help them doing housework compared to caregivers attached to male migrant workers. Caregivers from household attached to male migrant workers had

significantly higher variation of response when the child had poor appetite, more appropriate response when the child was crying, and preferred formal health seeking facilities when child getting ill. Hand washing practices also found higher among caregivers from households attached to male migrant workers, however, statistically, there was no significant difference (**table 4**).

Other caring practices, in term of hygiene and sanitation (frequency of taking a bath per day, washing hair, brushing teeth, and place to defecate), showed no significant difference among household attached to male and female migrant workers. Childs were usually take a bath 2-3 times per day, wash their hair 3 times in a week, brush the teeth 2-3 times per day, and defecate in the toilet (data not shown).

DISCUSSION

Caregiver's responsive feeding, preference to formal/ informal health seeking facilities and appropriateness of response when the child is crying while the caregiver is working were significantly different among household attached to male and female migrant workers.

This study showed that household attached to female migrant workers, which means that the caregivers were mostly the mother of the children (female), tend to give better quality of child caring practice. They had more varied response to feed the child when the child had poor appetite, more appropriate response when the child is crying while the caregiver is working (such as leave the work and hold the child or ask somebody to care the child) and prefer to bring the child to formal health seeking facilities when the child is getting illness.

Child care practice is influenced by resources for care. Knowledge was one of important resources for care, which in this study found significantly different among caregivers from household attached to male migrant workers (knowledge was found higher among caregiver attached to male migrant workers). Probably, in this study, this factor contributed to the different of response to child feeding and caring among caregivers attached to male and female migrant workers. Caregivers from household attached to female migrant workers also felt more overburdened by daily domestic works, although they had more people available to help them doing housework.

CONCLUSION

Some indicators of child care practice found better in household attached to male migrant workers Child care practice and resources for care which found significantly different among male and female migrant workers were score on responsive feeding, preference to formal/informal health seeking facilities for the child during illness, appropriateness of response when the child is crying while the caregiver is working and knowledge on proper care, which all were found better in household attached to male migrant workers. Other different factors are feeling overburden of daily domestic works, which found higher among household attached to female migrant workers, although they have more people help them doing household works.

RECOMMENDATION

Although this study did not go further into nutritional impact of labor migration to the child, however since some indicators of child care practice were found better in household attached to male migrant workers, for prevention, nutrition intervention which formerly tends to target mothers now should also expand to target households which are left by the mothers, to equip the alternate caregiver with knowledge and skill on proper care. If for certain reason, woman should migrate and the man stays, man should be ready to take up the role of woman and do more "adjustment" to play double role at the households. Otherwise, there should be other family member who will replace the role of mothers as the "gatekeeper" of food provisioning and child caring in the house

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Table 1. General characteristics

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Age of the migrant workers, *mean±SD*	37.20±6.40	32.23±5.43	34.71±6.43
Sex of the children, boys, *n (%)*	109 (48.4)	116 (51.6)	225 (50.0)
Age of children, *mean±SD*[1]	62.96±33.19	70.27±27.89	66.61±30.84
Age group of children, *n (%)*[2]			
6-<12 months	14 (6.2)	0 (0)	14 (3.1))
12 – <24 months	25 (11.1)	8 (3.6)	33 97.3)
24 – <60 months	68 (30.2)	89 (39.6)	157 (34.9)
>60 months	118 (52.4)	128 (56.9)	246 (54.7)
Main caregiver, *n (%)*[2]			
Father	2 (0.9)	117 (52.0)	119 (24.4)
Mother	216 (96.0)	1 (0.4)	217 (48.2)
Grandmother/grandfather	5 (2.2)	89 (39.6)	94 (20.9)
Other relatives	2 (0.9)	18 (8.0)	20 94.4)
Sex of the caregivers, female, *n (%)*[2]	223 (99.1)	104 (46.2)	327 (72.7)
Age of the caregivers, *median (min-max)*[3]	32 (21-82)	42 (18-80)	37.0 (18-82)
Length of work, months, *median (min-max)*	24 (6-240)	18 (6-144)	24 (6-240)
Arrangement of the departure, *n (%)*[1]			
Agency	162 (72.0)	213 (94.7)	375 (83.3)
Self arranged	49 (21.8)	9 (4.0)	58 (12.9)
Others	14 (6.2)	3 (1.3)	17 (3.8)
Legality, legal, *n (%)*	208 (97.2)	214 (98.6)	422 (97.9)
Number of household member, *median (Percentile 25th, 75th)*[1]	4 (3, 4)	4 (3, 5)	4 (3, 5)
Number of children <10 yrs old, *median (Percentile 25th, 75th)*	1 (1, 1)	1 (1, 1)	1 (1, 1)
Type of family, nuclear, *n (%)*[2]	145 (64.4)	102 (45.3)	247 (54.9)
Education of the migrant worker, *n (%)*			
No or <3 years of schooling	3 (1.3)	1 (0.4)	4 (0.9)
Elementary school	97 (43.1)	81 (36.0)	178 (39.6)
Junior high school	79 (35.1)	97 (43.1)	176 (39.1)
Senior high school	45 (20.0)	45 (20.00)	90 (20.0)
University	1 (0.4)	1 (0.4)	2 (0.4)
Education of the spouse, *n (%)*			
No or <3 years of schooling	2 (0.9)	4 (1.8)	6 (1.3)
Elementary school	56 (24.9)	97 (43.1)	153 (34.0)
Junior high school	99 (44.0)	80 (35.6)	179 (39.8)
Senior high school	60 (26.7)	41 (18.2)	101 (22.4)
University	8 (3.6)	3 (1.3)	11 (2.4)
Household income, per capita per months, *median (min-max)*	500.000 (50.000-2.266.667)	466.667 (60.000-3.000.000)	500.000 (50.000-3.000.000)

[1]t-test (p<0.001)
[2]chi-square test (p<0.001)
[3]Mann-Whitney test (p<0.05)

Table 2. Distribution of the households according to resources for care (caregiver's knowledge, burden, and alternate caregiver)

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Knowledge on proper care			
Score (total=20), *median (min-max)*[1]	9 (3-15)	7 (0-15)	8 (0-15)
Category of knowledge on proper care, *n (%)*[1*]			
Low	121 (53.8)	190 (84.4)	311 (69.1)
Medium	101 (44.9)	34 (15.1)	135 (30.0)
High	3 (1.3)	1 (0.4)	4 (0.9)
Time spent for child caring, *hours/day, mean ± SD*	5.5 (1-14.5)	5 (0-15)	5 (0-15)
Existence of somebody to help doing housework, yes, *n (%)*[2]	113 (50.2)	145 (64.4)	258 (57.3)
Feeling overburden of daily domestic work, yes, *n (%)*[2]	22 (9.8)	33 (14.7)	55 (12.2)
Alternate caregiver, *n (%)*			
Grand parents	116 (51.6)	82 (36.4)	198 (44.0)
Other family member/ relatives	62 (27.6)	93 (41.3)	155 (34.4)
Neighbor	29 (12.9)	34 (15.1)	63 (14.0)
Nobody	18 (8.0)	16 (7.1)	34 (7.6)
Alternate caregivers, *n (%)*			
Grandparents/other family member/relatives	178 (79.1)	175 (77.8)	353 (78.4)
Other people	47 (20.9)	50 (22.2)	97 (21.6)

[1]Mann-Whitney test (p<0.001)
[1*]Chi square test (p<0.001); regrouped into 2 categories: low and medium/high knowledge
[2]Chi square test (p<0.05)

Table 3. Distribution of the households according to resources for care (caregiver's mental health and nutritional status)

Variables	MMW (n=225)	FMW (n=225)	Total (n=450)
Emotional support for general problems, available, *n (%)*	214 (95.1)	204 (90.7)	418 (92.9)
Emotional support for child care problems, available, *n (%)*	194 (86.2)	180 (80.0)	374 (83.1)
Mental health			
Score, *mean ± SD*	7 (0-37)	7 (0-38)	7 (0-38)
Category of mental health problem, *n (%)*			
Minimal (BDI score: 1-13)	120 (65.5)	154 (79.5)	274 (71.0)
Mild (BDI score: 14-19)	28 (15.3)	19 (9.4)	47 (12.2)
Moderate (BDI score: 20-28)	23 (12.6)	16 (7.9)	39 (10.1)
Severe (BDI score: 29-63)	12 (6.6)	14 (6.9)	26 (6.7)
Caregiver's BMI	22.07 (15.0-38.48)	22.12 (15.07-32.75)	22.11 (15.07-38.48)
Nutritional status of the caregiver, *n (%)*			
Underweight	22 (9.8)	20 (8.9)	42 (9.3)
Normal	117 (52.0)	111 (49.3)	228 (50.7)
Overweight	57 (25.3)	71 (31.6)	128 (28.4)
Obese I	29 (12.9)	23 (10.2)	52 (11.6)

Table 4. Child care practice (feeding and health seeking behavior)

Variables, *n (%)*	MMW (n=225)	FMW (n=225)	Total (n=450)
Responsive feeding			
Eating while playing	98 (43.6)	52 (23.1)	150 (33.3)
Hold the child[1]	66 (29.5)	37 (16.4)	103 (22.9)
Provide favorite food	136 (60.4)	131 (58.2)	267 (59.3)
Persuade the child	142 (63.1)	136 (60.4)	278 (61.8)
Score on responsive feeding, *median (min-max)*	1 (0-4)	1 (0-4)	1 (0-4)
Score on responsive feeding (max=4)[1]			
Score ≤ 2	134 (59.6)	168 (74.7)	302 (67.1)
Score > 2	91 (40.4)	57 (25.3)	148 (32.9)
Hand washing practice			
Before eat	137 (60.9)	143 (63.6)	280 (62.2)
Before feed the child	71 (31.6)	62 (27.6)	133 (29.6)
After defecate	41 (18.2)	42 (18.7)	83 (18.4)
Before help the child washing after defecate[1]	130 (57.8)	95 (42.2)	225 (50.0)
Before preparing food[2]	42 (18.7)	27 (12.0)	69 (15.3)
Score on hand-washing , *median (min-max)*	1 (0-5)	1 (0-5)	1 (0-5)
Score on hand-washing			
Score ≤ 2	130 (57.8)	150 (66.7)	280 (62.2)
Score > 2	95 (42.2)	75 (33.3)	170 (37.8)
Place to go when the child is ill			
Posyandu/ puskesmas	85 (37.8)	95 (42.2)	180 (40.0)
Hospital	24 (10.7)	22 (9.8)	46 (10.2)
Private doctor	76 (33.8)	45 (20.0)	121 (26.9)
Others (paramedic, midwife)	40 (17.8)	63 (28.0)	103 (22.9)
Preference to formal/non formal health seeking facilities for the child during illness[2]			
Formal	185 (82.2)	162 (72.0)	347 (77.1)
Informal	40 (17.8)	63 (28.0)	103 (22.9)
Response when the child is crying while the caregiver working (n=358)			
Ignore the child	8 (4.4)	20 (11.3)	28 (7.8)
Ask somebody to care the child	38 (21.0)	41 (23.2)	79 (22.1)
Leave the work, hold or care the child	124 (68.5)	100 (56.5)	224 (62.6)
Give money	11 (6.1)	16 (9.0)	27 (7.5)
Appropriateness of response when the child is crying while the caregiver working (n=358)[2]			
Appropriate response	162 (89.5)	141 (79.9)	303 (84.6)
Inappropriate response	19 (10.5)	36 (20.3)	55 (15.4)

[1]chi square test (p<0.001)
[2]chi square test (p<0.05)

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NOMOR : 498 /PT02.FK/ETIK/2009

KETERANGAN LOLOS KAJI ETIK

ETHICAL --- CLEARANCE

Panitia Tetap Penilai Etik Penelitian, Fakultas Kedokteran Universitas Indonesia dalam upaya melindungi hak asasi dan kesejahteraan subyek penelitian kedokteran, telah mengkaji dengan teliti protokol berjudul:
The Committee of The Medical research Ethics of the Faculty of Medicine, University of Indonesia, with regards of the Protection of human rights and welfare in medical research, has carefully reviewed the proposal entitled:

"Household Food Security Status of Households Attached to Male and Female Migrant Workers and its Association to Child Care Practice and Child Nutritional Status (Ketahanan Pangan Rumah Tangga Pada Keluarga Tenaga Kerja Indonesia (TKI) Pria dan Wanita, Serta Hubungannya Dengan Pola Asuh Anak dan Status Gizi Anak".

Peneliti Utama : **Dini Ririn Andrias, SKM**
Name of the principal investigator

Nama Institusi : **Seamoe-Tropmed UI**

dan telah menyetujui protocol tersebut di atas.valuasi
and approved the above mentioned proposal.

Jakarta, 14 Desember 2009

Chairman
Ketua

Prof. Dr. dr. Agus Firmansyah, SpA(K)

-Peneliti wajib menjaga kerahasiaan identitas subyek penelitian.

PEMERINTAH PROVINSI JAWA TIMUR
BADAN KESATUAN BANGSA DAN POLITIK
JL. PUTAT INDAH No. 1 TELP. (031)-5677935-5681297-5675493
SURABAYA - (60189)

Surabaya, 20 Januari 2010

Nomor : 072/706 /203.3/2010
Lampiran : -
Perihal : Penelitian/Survey/Research

Kepada
Yth. Sdr. Bupati Tulungagung
Up. KabakesbangPol dan Linmas
di
TULUNGAGUNG

U.P-

Menunjuk Surat : Dirjen Kesbang Dan Politik Depdagri di Jakarta.
Tanggal : 17 Desember 201 0
Nomor : 440.02/2398.DI
Bersama ini diberitahukan bahwa :

Nama : DINI RIRIN ANDRIAS,SKM
Alamat : Kampus UI Salemba Jl. Salemba Raya 6 Jakarta
Pekerjaan : Peneliti
Kebangsaan : Indonesia
Bermaksud mengadakan penelitian/survey/research.
Judul : " KETAHANAN PANGAN RUMAH TANGGA PADA KELUARGA TENAGA KERJA INDONESIA PRIA DAN WANITA,DAN HUBUNGANNYA DENGAN POLA ASUH ANAK SERTA STATUS GIZI ANAK ".

Pembimbing : Dr. Drupadi HS Dillon,Phd
Peserta : -
Waktu : 3 (Tiga) Bulan
Lokasi : Kab. Tulungagung

1. Para Peneliti wajib mentaa'ti peraturan dan tata tertib yang berlaku di daerah setempat ;
2. Melaporkan hasil penelitian dan sejenisnya kepada Bakesbangpol Provinsi Jawa Timur dalam kesempatan pertama.

Demikian harap menjadi maklum.

An. KEPALA BADAN KESATUAN BANGSA DAN POLITIK
PROVINSI JAWA TIMUR
Kepala Bidang Budaya dan Politik

DJONI PURWANTO, SH, MM
Pembina Tk.I (IV/b)
NIP. 19598428 198603 1 010

Tembusan :
Yth. 1. Sdr. Dirjen KesbangPol Depdagri di Jakarta
2. Sdr. Yang bersangkutan.

Food security :::, Dini Ririn Andrias, FKUI, 2010

RINCIAN INFORMASI UNTUK RESPONDEN
TENTANG PENELITIAN

Judul penelitian:

Akan dilakukan penelitian berjudul:

Ketahanan pangan rumah tangga pada keluarga Tenaga Kerja Indonesia (TKI) pria dan wanita, serta hubungannya dengan pola asuh asuh anak dan status gizi anak
(*Household food security status of households attached to male and female migrant workers and its association to child care practice and child nutritional status*)

Pendahuluan:

Ketahanan pangan menjadi isu penting, oleh karena orang bergantung pada makanan untuk menjaga supaya tetap hidup. Pada umumnya, ketersediaan dan keterjangkauan pangan merupakan dua faktor utama yang mempengaruhi ketahanan pangan di Indonesia. Pangan biasanya cukup tersedia, namun kesulitan ekonomi membuatnya sulit untuk diakses. Sebagai respons terhadap krisis, banyak penduduk Indonesia yang berusaha mencari pekerjaan yang lebih menjanjikan dengan bekerja sebagai tenaga kerja Indonesia. Penelitian menunjunkkan bahwa *remittance*/ kiriman uang dapat menurunkan kemiskinan pada tingkat rumah tangga, diantaranya dengan melalui pendidikan, penurunan tenaga kerja anak, peningkatan kesehatan keluarga, peningkatan kesehatan keluarga, dan peningkatan kepemilikan/ aset. Penelitian juga menunjukkan bahwa aliran *remittance* dan pola pengeluaran uang kemungkinan besar dipengaruhi oleh jender. Wanita, biasanya memperoleh penghasilan yang lebih kecil dibhanding pria, namun prosentasenya lebih besar. Wanita juga cenderung memprioritaskan penghasilannya utk kebutuhan kesehatan, pendidikan dan gizi bagi keluarganya. Namun selain memberikan dampak positif, migrasi juga membawa dampak negatife bagi keluarga yang ditinggal, terutama dampak sosial bagi anak-anak.

Tujuan dari penelitian:

Tujuan umum:
Mempelajari perbedaan ketahanan pangan rumah tangga pada keluarga Tenaga Kerja Indonesia pria dan wanita dan faktor –faktor yang berhubungan dengan ketahanan pangan rumah tangga.

Tujuan khusus:
Membandingkan rumah tangga keluarga Tenaga kerja Indonesia pria dan wanita dalam hal:

1. Status ketahanan pangan rumah tangga
2. Asupan makanan dan status gizi anak
3. Pola asuh anak dan sumber daya untuk pengasuhan
4. Penyebab langsung (*immediate cause*) ketahanan pangan rumah tangga
5. Penyebab antara (*underlying causes*) ketahanan pangan rumah tangga
6. Penyebab dasar (*basic causes*) ketahanan pangan rumah tangga

Rumah tangga yang dapat berpartisipasi
Rumah tangga yang mempunyai anak usia 6 bulan hingga 10 tahun, dimana salah satu orangtuanya (ibu/ayah) bekerja sebagai tenaga kerja indonesia, paling tidak 6 bulan.

Kegiatan yang akan dilakukan

1. Wawancara dan pencatatan data mengenai kependudukan, sosial ekonomi, ketahanan pangan, kondisi kesehatan anak anda, asupan makanan dan pengasuhan terhadap anak anda, serta data yang berkaitan dengan keikutsertaan anggota keluarga anda sebagai Tenaga Kerja Indonesia

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2. Pengukuran berat badan dan tinggi/ panjang badan terhadap anak saya, serta pengukuran berat badan dan tinggi badan terhadap orang yang paling bertanggungjawab dalam mengasuh anak saya

Permasalahan

Penelitian ini tidak menimbulkan masalah dan risiko apapun pada anak anda karena hanya dilakukan wawancara dan pengukuran berat badan serta tinggi/ panjang badan saja.

Manfaat Penelitian

Penelitain ini akan memberikan gambaran mengetahui status ketahanan pangan rumah tangga dan status gizi anak anda, sehingga jika anak dalam kondisi status gizi yang kurang, bisa segera dilakukan upaya penanggulangan untuk meningkatkan serajat kesehatan anak.

Kerahasiaan

Semua informasi yang diterima, termasuk informasi mengenai rumah tangga serta hasil pengukuran berat dan tinggi badan anak ibu dan pengasuh utamanya, akan diperlakukan secara rahasia dan hanya anda dan petugas berwenang saja dari penelitian ini yang dapat mengetahui/mengaksesnya.

Masalah Keuangan

Penelitian ini tidak menyediakan manfaat/keuntungan finansial bagi keluarga anda apabila anak anda berpartisipasi.

Hak Untuk Menolak atau Mengundurkan Diri Dari Penelitian

Setelah anda mendapat informasi yang jelas dan memadai baik secara lisan maupun membaca informasi untuk responden tentang penelitian ini, beserta informasi rinci mengenai tujuan, menfaat dan resiko dari penelitian ini, anda akan diminta untuk mengisi dengan menandatangani lembaran persetujuan.

Anda berhak untuk menolak atau mengundurkan diri dari penelitian pada waktu kapanpun tanpa ada sanksi apapun juga. Partisipasi anda adalah sukarela dan tanpa paksaan dalam bentuk apapun atau siapapun.

Apabila diperlukan penjelasan lebih lanjut, dapat menghubungi:

Dini Ririn Andrias
SEAMEO TROPMED RCCN - UI
Gedung SEAMEO TROPMED Kampus UI Salemba
Jl. Salemba Raya No. 6 Jakarta Pusat
HP:081330439443

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SEAMEO TROPMED Regional Center for Community Nutrition
Pusat Gizi Regional, Universitas Indonesia
Jl. Salemba Raya No. 4 Jakarta 10430 Telp: 021 3914017, 31930205

SURAT PERSETUJUAN
UNTUK BERPARTISIPASI DALAM PENELITIAN

"Ketahanan pangan rumah tangga pada keluarga Tenaga Kerja Indonesia (TKI) pria dan wanita, serta hubungannya dengan pola asuh asuh anak dan status gizi anak"
(Household food security status of households attached to male and female migrant workers and its association to child care practice and child nutritional status)

(Lembar untuk Responden/Rumah tangga)

Setelah mendengar penjelasan mengenai tujuan penelitian, prosedur penelitian, resiko dan manfaat penelitian, dan semua pertanyaan-pertanyaan saya yang berkaitan dengan penelitian ini telah terjawab sepenuhnya,

Saya mengerti bahwa akan dilakukan terhadap anak saya dan diri saya:

1. Pengambilan data demografi, karakteristik keluarga, sosial ekonomi, ketahanan pangan rumah tangga, kondisi kesehatan anak saya, asupan makanan dan pengasuhan terhadap anak saya, serta data yang berkaitan dengan keikutsertaan dan anggota keluarga saya sebagai Tenaga Kerja Indonesia
2. Pengukuran berat badan dan tinggi/ panjang badan terhadap anak saya, serta pengukuran berat badan dan tinggi badan terhadap orang yang paling bertanggungjawab dalam mengasuh anak saya

Maka dengan ini saya yang bertanda tangan dibawah ini:

Nama : _____
Umur : _____ tahun
Jenis kelamin : _____
Alamat : _____

Menyatakan setuju bahwa saya dan anak saya akan berpartisipasi sebagai subyek penelitian ini secara sukarela dan bebas tanpa ada paksaan, dengan catatan apabila suatu ketika merasa dirugikan dalam bentuk apapun berhak membatalkan persetujuan ini.

Jakarta, tanggal ____/_____/2009

Pembuat pernyataan,

(_____)

Mengetahui,
Penanggung jawab penelitian,

(Dini Ririn Andrias, SKM)

DEPARTEMEN DALAM NEGERI
REPUBLIK INDONESIA
DIREKTORAT JENDERAL KESATUAN BANGSA DAN POLITIK

Jalan Medan Merdeka Utara No.7 Telp. 3450038 Jakarta 10110

SURAT PEMBERITAHUAN PENELITIAN
(S P P)

NOMOR : 440.02/2398.DI

MEMBACA : Surat dari Deputi Direktur Divisi Program SEAMEO-TROPMED RCCN Universitas Indonesia, Nomor 272/SEAMEO-PROG/XI/2009, Tanggal 23 November 2009, Perihal Permohonan Ijin Penelitian.

MENGINGAT :
1. Keputusan Menteri Dalam Negeri Nomor : 130 Tahun 2003 tentang Organisasi dan Tata Kerja Departemen Dalam Negeri.
2. Surat Keputusan Menteri Dalam Negeri Nomor : SD.6/2/12 Tanggal 5 Juli 1972 tentang Kegiatan Riset dan Survei diwajibkan melapor diri kepada Gubernur Kepala Daerah atau Pejabat yang ditunjuk.
3. Keputusan Direktur Jenderal Sosial Politik Nomor : 14 Tahun 1981 tentang Surat Pemberitahuan Penelitian (SPP).

MEMPERHATIKAN : Proposal Penelitian Ybs.

MEMBERITAHUKAN BAHWA :

NAMA	: Dini Ririn Andrias, SKM
ALAMAT	: Kampus UI Salemba, Jl. Salemba Raya 6, Jakarta 10430
PEKERJAAN	: Peneliti
KEBANGSAAN	: Indonesia
JUDUL PENELITIAN	: Ketahanan Pangan Rumah Tangga pada Keluarga Tenaga Kerja Indonesia Pria dan Wanita, dan Hubungannya dengan Pola Asuh Anak serta Status Gizi Anak
BIDANG	: Kesehatan
DAERAH	: Provinsi Jawa Timur
LAMA PENELITIAN/ KEGIATAN	: Desember 2009 s/d Februari 2010
PENGIKUT PESERTA	: Terlampir
PENANGGUNG JAWAB	: Dr. Drupadi HS Dillon, PhD
SPONSOR	: -
MAKSUD DAN TUJUAN	: Untuk mempelajari perbedaan ketahanan pangan rumah tangga pada keluarga tenaga kerja Indonesia (TKI) pria dan wanita, serta faktor-faktor yang mempengaruhinya.

Food security - Dini Ririn Andrias, FKUI, 2010

DEPARTEMEN DALAM NEGERI
REPUBLIK INDONESIA
DIREKTORAT JENDERAL KESATUAN BANGSA DAN POLITIK

Jalan Medan Merdeka Utara No.7 Telp. 3450038 Jakarta 10110

SURAT PEMBERITAHUAN PENELITIAN
(S P P)

NOMOR : 440.02/2398.DI

MEMBACA	:	Surat dari Deputi Direktur Divisi Program SEAMEO-TROPMED RCCN Universitas Indonesia, Nomor 272/SEAMEO-PROG/XI/2009, Tanggal 23 November 2009, Perihal Permohonan Ijin Penelitian.
MENGINGAT	:	1. Keputusan Menteri Dalam Negeri Nomor : 130 Tahun 2003 tentang Organisasi dan Tata Kerja Departemen Dalam Negeri. 2. Surat Keputusan Menteri Dalam Negeri Nomor : SD.6/2/12 Tanggal 5 Juli 1972 tentang Kegiatan Riset dan Survei diwajibkan melapor diri kepada Gubernur Kepala Daerah atau Pejabat yang ditunjuk. 3. Keputusan Direktur Jenderal Sosial Politik Nomor : 14 Tahun 1981 tentang Surat Pemberitahuan Penelitian (SPP).
MEMPERHATIKAN	:	Proposal Penelitian Ybs.

MEMBERITAHUKAN BAHWA :

NAMA	:	Dini Ririn Andrias, SKM
ALAMAT	:	Kampus UI Salemba, Jl. Salemba Raya 6, Jakarta 10430
PEKERJAAN	:	Peneliti
KEBANGSAAN	:	Indonesia
JUDUL PENELITIAN	:	Ketahanan Pangan Rumah Tangga pada Keluarga Tenaga Kerja Indonesia Pria dan Wanita, dan Hubungannya dengan Pola Asuh Anak serta Status Gizi Anak
BIDANG	:	Kesehatan
DAERAH	:	Provinsi Jawa Timur
LAMA PENELITIAN/ KEGIATAN	:	Desember 2009 s/d Februari 2010
PENGIKUT PESERTA	:	Terlampir
PENANGGUNG JAWAB	:	Dr. Drupadi HS Dillon, PhD
SPONSOR	:	-
MAKSUD DAN TUJUAN	:	Untuk mempelajari perbedaan ketahanan pangan rumah tangga pada keluarga tenaga kerja Indonesia (TKI) pria dan wanita, serta faktor-faktor yang mempengaruhinya.

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AKAN MELAKUKAN PENELITIAN DENGAN KETENTUAN SEBAGAI BERIKUT :

1. Sebelum melakukan kegiatan Penelitian harus melaporkan kedatangannya kepada Gubernur Cq Kaban Kesatuan Bangsa dan Perlindungan Masyarakat/ Badan Informasi, Komunikasi dan Kesbang setempat dengan menunjukkan surat pemberitahuan ini.
2. Tidak dibenarkan melakukan Penelitian yang tidak sesuai/tidak ada kaitannya dengan judul penelitian dimaksud.
3. Harus mentaati ketentuan perundang-undangan yang berlaku serta mengindahkan adat istiadat setempat.
4. Apabila masa berlaku Surat Pemberitahuan ini sudah berakhir, sedangkan pelaksanaan penelitian belum selesai, perpanjangan penelitian harus diajukan kembali kepada instansi pemohon.
5. Hasil kajian agar diserahkan 1 (satu) eksemplar kepada Ditjen Kesbang dan Politik Up. Direktorat Pengembangan Nilai-Nilai Kebangsaan.
6. Surat Pemberitahuan ini akan dicabut kembali dan dinyatakan tidak berlaku, apabila ternyata pemegang Surat Pemberitahuan ini tidak mentaati/mengindahkan ketentuan-ketentuan seperti tersebut diatas.

Dikeluarkan di Jakarta
Pada tanggal, 17 Desember 2009

A.n. MENTERI DALAM NEGERI
DIREKTUR JENDERAL
KESATUAN BANGSA DAN POLITIK
Ub.
SEKRETARIS,

SUWARNO PUTRA RAHARJO, M.Si
Pembina Utama Madya
NIP. 19580416 198503 1 001

Tembusan :

1. Yth. Gubernur Jawa Timur.
   Up. Kaban Kesbang dan Linmas Prov.
2. Yth. Deputi Direktur Divisi Program SEAMEO-TROPMED RCCN Universitas Indonesia di Jakarta.

SUMMARY OF FOCUS GROUP DISCUSSION
TO THE SPOUSE OF MIGRANT WORKERS IN TULUNGAGUNG, EAST JAVA

1. GENERAL CHARACTERITICS OF THE PARTICIPANTS

No	Name	Age	No of children	Age of the youngest child	General characteristics						
					Country of destination	Occupation	Length of work	Frequency of sending the remittance	Amount of *remittance* per month	How the *remittance* sent	Regularity of *remittance* received
Sub District: Rejotangan; Village: Sumberagung; Group: spouse of female migrant workers											
1	Marsid	38	1	10 yrs	Hongkong	Housemaid	10 yrs	1x/3month; inconsistent, depend on the need	± IDR 2 million	Bank	Inconsistent
2	Sugeng Purnomo	30	1	4 yrs	Malaysia	Housemaid	5 yrs	1x/2 months	± IDR 1 million	Bank	Inconsistent
3	Totok santoso	27	1	10 yrs	Taiwan	Housemaid	5 yrs	1x/2-3 months; inconsistent	± IDR 1-2 million	Bank	Inconsistent
4	Waryanto	40	4	2.5 yrs	Malaysia	Housemaid	5 yrs	Rarely (1x/th)	500 thousand	Bank	Rarely
5	Marsilan	34	1	8 yrs	Malaysia	Housemaid	4 yrs	1x/2-3 months	± IDR 1.5 million	Bank	Inconsistent
6	Suharyadi	39	1	9 yrs	Malaysia	Housemaid	2 yrs	1x/2-3 months	± IDR 1-2 million	Bank	Inconsistent
Sub District: Ngunut; Village: Balesono; Group: spouse of the female migrant workers											
1	Edi Suseno	40	1	5 yrs	Brunei	Housemaid	1 yr	-	-	Bank	Never sent
2	Juremi	59	3	16 mos	Hongkong	Housemaid	4 yrs	1x/2-5 months	± 1 million	Bank	Inconsistent
3	Purwanto	40	2	9 yrs	Malaysia	Housemaid	2 yrs	Rarely and inconsistent	800.000-1 million	Bank	Rarely
4	Sunarto	39	2	6 yrs	Taiwan	Housemaid	3 yrs	1x/2-4months	± 2-3 million	Bank	Inconsistent
5	Zamroni	36	1	6 yrs	Brunei	Labor	3 mos	-	-	Bank	Never sent
6	Somadi	40	2	3 yrs	Brunei	Housemaid	4 yrs	1x/2-3months	± 2-3 million	Bank	Inconsistent
Sub district: Rejotangan, Village: Karangsari; Group: spouse of the male migrant workers											
1	Siti Aisah	30	1	8 yrs	Malaysia	Building labor	7 yrs	1x/2 months	± 2 million	Bank	Inconsistent
2	Munfiah	32	1	10 yrs	Malaysia	Building labor	10 yrs	1x/month	± 1 million	Bank	Inconsistent
3	Umi Kulsum	39	1	10 yrs	Malaysia	Building labor	12 yrs	1x/2 months	± 2 million	Bank	Inconsistent
4	Wardatul	47	2	8 yrs	Malaysia	Building labor	26 yrs	1x/1-2 months	± 1-2 million	Bank	Inconsistent
5	Uswatun	30	1	8 yrs	Malaysia	Building labor	10 yrs	1/1-2 months	± 1-2 million	Bank	Inconsistent
6	Setianik	29	2	3 mos	Malaysia	Building labor	10 yrs	1x/2 months	± 2 million	Bank	Inconsistent
Sub district. Kalidawir; Village: Bethak; Group: spouse of the male migrant workers											
1	S Musriah	28	1	4 yrs	Malaysia	Farming labor	1 yrs	1x/2-3 months	± 2-3 million	Bank	Inconsistent
2	S Rodiatin	28	1	2,5 yrs	Taiwan	Building labor	1.5 yrs	1x/2 months	± 2 million	Bank	Inconsistent
3	Muntama	36	1	2 yrs	Malaysia	Factory labor	3 yrs	1x/3 months	± 3 million	Bank	Inconsistent
4	Ela	30	1	2 yrs	Malaysia	Farming labor	5 yrs	1x/ month	± 1 million	Bank	Inconsistent
5	Patonah	38	2	6 yrs	Malaysia	Building labor	10 yrs	1x/1-2months	± 1-2 million	Bank	Inconsistent
6	Siti Mukayah	32	1	10 yrs	Malaysia	Farming labor	5 yrs	1x/1-2months	± 1.5-2.5 millions	Bank	Inconsistent

2. SUMMARY OF FOCUS GROUP DISCUSSION

Topic	Households attached to female migrant worker		Households attached to male migrant worker	
	Subdistrict: Rejotangan Village: Sumberagung	Subdistrict: Ngunut Village: Balesono	Subdistrict: Rejotangan Village: Karangsari	Subdistrict: Kalidawir Village: Bethak
Labor migration				
Reason of working as a migrant worker	- Income from father not enough - Sometimes there's no job, since most fathers works as casual worker	- Sometimes income from father not enough	- Income only enough for basic need - Need additional income for saving	- Difficult to find job in Tulungagung - Income only enough for basic need - Need additional income for saving
Person who influence the decision to work as a migrant worker.	Decided through discussion between father and mother (no dominant person)	- 5 Participant: Decided through discussion between father and mother (no dominant person) - 1 participant: dominated by wife	- Decided through discussion between father and mother (no dominant person) - Get interested to work as a migrant worker after knowing their relatives/ neighbors's success as a migrant worker	- Decided through discussion between father and mother (no dominant person) - Get interested to work as a migrant worker after knowing their relatives/ neighbors's success as a migrant worker
Preference to choose husband or wife to work abroad and reason	Wife was choosen Reasons: - "Rotation" between husband and wife - Wives worried money will not be sent if husbands was the one who leave - 1 participant: husband has a sickness	Wife was chosen Reasons: - Husband was unsuccess being a migrant worker - Husband has a sickness - Usually, job for male migrant worker more costly and give burden to the household, since the cost should be paid prior to the departure. While jobs for the female, can be paid on credit	Husband was chosen Reason: Wife responsible for child caring	Husband was chosen Reason: Wife responsible for child caring, since mother have more patience to give care to the child, compared to father
Arrangement of the deparure	The majority used "tekong" as the mediator between migrant worker and the agency of labor migration	All used "tekong" as the mediator between migrant worker and the agency of labor migration	The majority used "tekong" as the mediator between migrant worker and the agency of labor migration	The majority used "tekong" as the mediator between migrant worker and the agency of labor migration
Process of the departure	The majority was help by tekong for preparing the documents and getting the agency	- All was help by tekong for preparing the documents and getting the agency - Sometimes should stay longer in the agency due to long process to get visa, or unmet requirement for language skill	- All was help by tekong for preparing the documents and getting the agency - Documents required: citizen ID card, marriage certificate (*surat nikah*), family certificate (*kartu keluarga*), letter of agreement which signed by the spouse, and pasport	- All was help by tekong for preparing the documents and getting the agency - Documents required: citizen ID card, marriage certificate (*surat nikah*), family certificate (*kartu keluarga*), letter of agreement which signed by the spouse, and pasport

The role of local goverment	Only giving legal permission, after all the requirement was met	Only giving legal permission, after all the requirement was met	Only giving legal permission, after all the requirement was met	Only giving legal permission, after all the requirement was met
Resources/ cost needed	- No need to prepare the cost for the departure. Since the agency give loan for this purpose, which will be repay monthly, deducted from the migrant worker's wages. - Migrant workers only need to prepare money for their living cost during staying in the agency's shelter before the departure.	- No need to prepare the cost for the departure. Since the agency give loan for this purpose, which will be repay monthly, deducted from the migrant worker's wages (the deduction may up to 70% of the monthly wage, until around 6 months depend on the job & the country) - Migrant workers only need to prepare money for their living cost during staying in the agency's shelter before the departure. - All participant agree that during the 1st year of their spouse's leaving, they got nothing	For the departure, they have to prepare around 4-5 million rupiahs, but after that they receive full monthly payment (wage)	For the departure, they have to prepare around 3.5-4 million rupiahs, but after that they receive full monthly payment (wage)
Problem sharing with the spouse during working abroad	No serious problems. Sometimes the migrant workers only share about the burden of work they felt. But they realize that it was the risks of this works	During their communication, most of the time, they talk about their children and daily routine activities. Sometimes also talk about working burden. One responden said that his wife ever told him about delay on receiveing the wage for around 3 months	Very rarely to discuss the migrant worker's problems. Problems related to the migrant workers work can be about stop working for a few days due to the rain (usually for building labor) or delay on receiving te wage	- Most of the time they talk about thei child duing thei communication - All of the participants said that there was no serious problem. If there was, sometimes about stop working for a few days which may reduce the wages
Intensity and means of communication	- Communicate almost everyday (via mobile phone/SMS) - 1 participant, his wife does not willing to communicate with him. She only communicate with her parents or her oldest child (the participant doesn't know the reasons/problems why his wife refuse to talk to him)	- Communicate almost everyday (via mobile phone/SMS) - 1 partiipant lost contact with his wife in the last 7 months	Communicate almost everyday (via mobile phone/SMS)	Communicate almost everyday (via mobile phone/SMS)
Priority for the utilization of remittance	- Remittance was utilized mainly for non primary need (non food need),	- Remitance was utilized for daily need, child's need, and to	- Remitance was utilized for daily need, to prepare child's	- Remitance was utilized for daily need, to prepare child's

	since husband's income was enough for food need - 1 participant very rarely receives remittance. If he got the remittance, he use it for daily need, incuding for food, eventhough still not enough	pay loanKiriman uang - All participant said that remittance they received was still not enough for saving or investment	education, and saving for housing (construction/ renovation)	education, saving, buy land, for housing (construction/ renovation), and for financing small economic activities such as livestock raising or handicraft
Delay on receiving remittance, impact and how to overcoe	- Remittance was received irregularly, but they already get used to this situation and did not consider this as a problem - No serious problem, since most of husbands also works and has their own income. If the money they have was not enough for daily need, they usually borrow money to their relatives. - 1 participant very rarey receive remittance, and it was a serious problem for him since he has to fufill the need of his 4 children. Efforts to overcome this problem: find additional work for additional income (casual works), borrow money, or the children discontinue the education after graduate from elementary school	- Remittance was received irregularly, sometimes every 2-3 months - To overcome: borrow money from relatives, neighbors, friends	- Remittance was received irregularly, sometimes every 2-3 months, but they already get used to this situation and did not consider this as a problem	- Remittance was received irregularly, every 2-3 months, but they already get used to this situation and did not consider this as a problem. Only 1 participant received remittance every month - All participants I not think that irregularity means delay. This was not a problem, since they have saving from the money remitted in the previous month. Most of the participat also have secondary income from their own economic productive activity
Child caring				
Problem/ difficulty on daily household activity and way to overcome	Most FGD participants said that there was no serious problem on daily household activities. Some of them live with parents and some live only with the child and get the food by purchasing, not cooking	- Most of FGD participants said that they found difficulty on doing daily household actvities without their spouse, such as cooking, washing, clean the house. - 2 out of 6 participants live with their parents, therefore found no problem	- Most of the FGD participants said that there was no problem on doing daily household activities. - Only 1 participant said that sometimes she got tired on getting grass/food to feed their livestok	All participants found no problem doing daily household activities
Problems/ difficulty related to child care and way to	- Most of them found no problem/ difficulty, mainly if the child if already at the school	- Most of them found difficulty to give care their children, mainly when the child is	Found no difficulty if the child is still young, but if they have older son, sometimes they found	Found no difficulty. Sometimes only feel of worry and confuse when the child is getting ill,

overcome	age. - Some prticipants live with their extende family, therefore other family member may help to care the child - 1 participant felt over burdened, since he has to give care to 4 children on his own, mainly to care his under-five child.	restless or crying, they do not know what to do - Participant who had older children found no difficulty	difficulty to handle the naughtiness of their older son	and there was no spouse there to share their confusion
Difference of problem in household attached to male and female migrant worker	All agree that there might be difference. Children will be more well taken care by their mother	All agree that there might be difference. Children will be more well taken care by their mother, and th child will be more easy to get restless when there was only father in the home	All agree that there might be difference. Children will be more well taken care by their mother, since mothers are usually have more patience to handle their children	- All agree that there might be difference. Children will be more well taken care by their mother, since fathers are usually spent his time longer out of home than in the home therefore the children may lack of father's love and care - 1 FGD particpant had an experience with her former husband. When she wa being a migrant worker, and her former husband at home, he failed to care the child and failed to organize remittance
Food security				
Perception on the state of household food situation	Most of the participants felt that if only for food, it was not a problem. Food was quite suficient	Some participant said enough, some not enough	All said enough	All said enough
Wheter ever experience food insecure before the spouse work as a migrant worker	Most never, only one participant said ever	All said that although food was enough, they can not choose any food they like due to limited money	All said never	All said never
Wheter ever experience food insecure during the spouse work as a migrant worker	Most never, only one participant said ever	All said never	All said never	All said never
Perception on the state of household economic situation before and after the	Most of them felt that there's difference. Although assets were still limited, at least sometimes they can save some money 1 participant said that his	- Most of the participants said that there was slightly increase - 2 participants said that their HH	All respondents felt that their economic condition was better after their husband worked as migrant worker and their asset ownership was	All respondents felt that their economic condition was better after their husband worked as migrant worker

spouse work as a migrant worker	HH economic condition remains the same and still low	economic condition remains the same	increased	
Perception on the state of household food situation before and after the spouse work as a migrant worker	Most of them felt that theirhousehold food situation was slightly improved, and 1 respondent felt no improvement	Most of them felt that their household food situation was slightly improved, but not much different	If only about food, the difference was not much. They felt more difference on the assets and saving	All felt that their food situation was improved. Previously was enough, but they can not choose the food they like, but after their husband worked as migrant worker, they can choose more varied food.
Months or period where food are sometimes lacking	Around this month (January-february), price for rice usually slightly higher	Around January/February, since usually around those months farmer just start the cultivation, hence rice price slightly increased.	Around January/February, since usually foods are quite scarce,hence the price slightly increased.	Around January/February, since usually around those months farmer just start the cultivation, hence rice price slightly increased.
Support in the community related o household food security	Social support, e.g. sometimes they can borrow rice from neighbors when they run out of rice	No support	No support	No support
Coping strategy when food is insuficient	1. Reduce number of meals eaten in a day (5) 2. Limit portion size at meal time (5) 3. Restrict consumption by adult in order for small children to eat (4) 4. Borrow food from neighbors, friend or relatives (3) 5. Purchase food on credit (3) 6. Buy cheaper and less preferred food (2) 7. Buy instant food (1)	1. Skip entire day without eating (fasting) (5) 2. Gather wild food (Ex: *rebung*/young bamboo; snail) (3) 3. Limit portion size at meal time (4) 4. Reduce number of meals eaten in a day (4) 5. Restrict consumption by adult in order for small children to eat (3) 6. Purchase food on credit (2) 7. Borrow food from neighbors, friend or relatives (2) 8. preferred food (2) 9. Buy instant food (1) 10. Buy cheaper and less	1. Purchase food on credit (6) 2. Borrow food from neighbors, friend or relatives (5) 3. Buy cheaper and less preferred food (4) 4. Change the staple food (3) 5. Mix the staple food (2) 6. Buy cheaper and less preferred food (2) 7. Buy instant food (1)	1. Reduce number of meals eaten in a day (7) 2. Limit portion size at meal time (7) 3. Restrict consumption by adult in order for small children to eat (6) 4. Borrow food from neighbors, friend or relatives (5) 5. Purchase food on credit (5) 6. Buy cheaper and less preferred food (4) 7. Change the staple food (3) 8. Mix the staple food (2) 9. Buy instant food (1)
Number of working day in a week for daily labor	Depend on the type of work and the employer. 6-7 days per week	Depend on the type of work and the employer. The majority 6 days per week	Depend on the type of work and the employer.	Depend on the type of work and the employer. 6-7 days per week

FOCUS GROUP DISCUSSION TO CONSTRUCT COPING STRATEGY INDEX

1. Getting the right list of coping strategies for the location

The generic list of coping strategies by FAO, which was used as the starting point for focus group discussion, is as follow:

Table 1. Generic list of coping strategies

Categories	Coping strategies
Dietary change	Rely on less preferred and less expensive food
Increase short term household food availability	Borrow food, or rely on help from a friend or relative
	Purchase food on credit
	Gather wild food, hunt or harvest immature crops
	Consume seed stock help for next season
Decrease number of people	Send children to eat with neighbors
	Send household member to beg
Rationing strategies	Limit portion size at meal time
	Restrict consumption by adults in order form small children to eat
	Feed working members of households at the expense of non-working members
	Ration the money you have and buy prepared food
	Reduce numbers of meals eaten in a day
	Skip entire day without eating

The list above was used to discuss which strategies people use in our study area during food scarcity, continue by brainstorming to find out other strategies which have not identified in the FAO's generic list of coping strategy index. Findings from the discussion:

a. Two strategies were not practiced in the study area (all FGD groups confirmed that these 2 strategies were not practiced), therefore were dropped. The strategies were:
   - Send children to eat with neighbors
   - Send household member to beg
b. One strategy was rephrase and adjusted to the local situation, i.e. ration the money you have and buy prepared food, was change into: buy instant food (instant noodle)
c. Two local strategies were added:
   - Change the staple food
   - Mix the staple food

2. Ranking of coping strategies to define the severity weight

After the new list was made, the discussion was continued to determine the rank of severity of each strategies which later on will be used to determine the severity weight to calculate coping score.

Table 2. Ranking of coping strategies

Coping strategy	Goups				Average	Consensus ranking
	1	2	3	4		
Limit portion size at meal time	5	4	-	7	5.3	5
Reduce numbers of meals eaten in a day	5	4	-	7	5.3	5
Restrict consumption by adults in order form small children to eat	4	3	-	6	4.3	4
Borrow food, or rely on help from a friend or relative	3	2	5	5	3.75	4
Purchase food on credit	3	2	5	5	3.75	4
Buy less preferred and less expensive food	2	2	2	4	2.5	3
Buy instant food (instant noodle)	1	1	1	1	1	1
Gather wild food, hunt or harvest immature crops (e.g. *rebung*/young bamboo, snail)	-	3	-	-	3	3
Skip entire day without eating	-	5	-	-	5	5
Consume seed stock	-	-	4	-	4	4
Change the staple food	-	-	3	3	3	3
Mix the staple food	-	-	2	2	2	2

*Groups: 1= Rejotangan Sub District, Sumberagung Village; 2= Ngunut Sub District, Balesono Village;
3= Rejotangan Sub District, Karangsari Village; 4= Kalidawir Sub District, Bethak Village

3. The end result of coping strategy index instrument for households attached to migrant workers in Tulungagung Distric

Table 3. Coping strategy index instrument for household attached to migrant workers in Tulungagung District

	In the past 30 days, if there have been times when you did not have enough foo or money to buy food, how often has your household had to:	All the time/ everyday	Pretty often (3-6x/wk)	Once in a while (1-2x/wk)	Hardly at all (<1x/wk)	Never	Raw score	Severity weight^	Score (frelative freq x weight)
	*Relative freq score**	7	4.5	1.5	0.5	0			
FAO's indicators:									
1	Buy less preferred and less expensive food							6	
2	Borrow food, or rely on help from a friend or relative							8	
3	Purchase food on credit							8	
4	Gather wild food, hunt or harvest immature crops (e.g. *rebung*/young bamboo, snail)							6	
5	Consume seed stock							4	
6	Limit portion size at meal time							10	
7	Restrict consumption by adults in order for small children to eat							8	
8	Buy instant food (instant noodle)							1	
9	Reduce numbers of meals eaten in a day							10	
10	Skip entire day without eating							10	
Additional (local) indicatosr:									
11	Change the staple food							6	
12	Mix the staple food							4	
	Total household score								

*Relative score: from FAO guideline

^Severity weight: from FGD

Household identity_____ Sub District Village Resp. number

COMPARISON OF HOUSEHOLD FOOD SECURITY OF HOUSEHOLDS ATTACHED TO MALE AND FEMALE MIGRANT WORKERS IN TULUNGAGUNG DISTRICT, EAST JAVA

South East Asian Ministers of Education Organization (SEAMEO)
Tropical Medicine and Public Health (TROPMED)
Regional Center for Community Nutrition (RCCN) - University of Indonesia (UI)
Jl. Salemba Raya 6 Jakarta Pusat
Phone : (021) 3913932, Fax : (021) 3913933

Note: "*(greeting)*.... I am *(name)* from SEAMEO Tropmed RCCN university of Indonesia. We are visiting Tulungagung District for conducting survey on Household food security among households attaced to migrant workers. You are randomly selected to participate in our research, and this interview is part of the survey. Your answer will be purely confidential and can only be accessed by us.

Inform consent:
Before I start, I will ask for your permission to participate in this survey, by signing this form.
In this survey, I will ask several questions related to household food security, child care practice, nutrition and health. I will also measure the weight and height of your child, as well as measure your height and weight.

There will be no risk result in this interview. Your participation is voluntary. The confidentiality of your information is assured by SEAMEO-TROPMED RCCN University of Indonesia. By signing this form, you are agree to participate in this survey

(Signature)_____ (name) _____(date) _____

We highly appreciate your participation

				CODE
Date of interview: ...../...../.....(dd/mm/yy)				dateint ...../...../ .....
Time of interview: .....until.....				startint ..... endint .....
Interviewer:				
01. Evy Dhia	03. Nani	05. Pratiwi	07. Lilik	intvwr ☐☐
02. Santi	04. Yulis	06. Yulia	08. Isti	
Sub district:				
01. Bandung	04. Kalidawir	07. Pakel	10. Tulungagung	subdist ☐☐
02. Besuki	05. Kedungwaru	08. Rejotangan		
03. Campurdarat	06. Ngunut	09. Sumbergempol		
Village:				village ☐☐
01.	11.	21.	31.	
02.	12.	22.	32.	
03.	13.	23.	33.	
04.	14.	24.	34.	
05.	15.	25.	35.	
06.	16.	26.	36.	
07.	17.	27.	37.	
08.	18	28.	38.	
09.	19.	29.	39.	
10.	20.	30.	40.	
Respondent number:				noresp ☐☐
Respondent's identity: Respondent's name for HH questionaire: ..... Respondent's name for child care questionnaire: ..... Child's name:				hhrespname..... ccrespname..... childname.....
Child's age: ..... month / ..... years old ***(exclude if the child <6 months or > 10 years old)***				childage ☐

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Household identity_____ Sub District | Village | Resp. number

Category of the household 1. Attached to male migrant worker 2. Attached to female migrant worker	hhcat
Does the husband/wife of the migrant worker live in the house? 1. Yes 0. No	spousepresence
Duration the MW has been working as a migrant worker.....month/ ..... years *(exclude if the migrant worker has been working as a MW for < 6 months)*	mwduration .....

I. QUESTIONAIRE FOR THE SPOUSE OF MIGRANT WORKER/ HEAD OF THE HOUSEHOLD

A. SOCIO DEMOGRAPHIC CHARACTERISTICS

Fill in this table with data of the household member

No	Name of the family member	Sex 1. M 2. F	Date of birth (dd/mm/yy)/ umur	Education (b)	Occupation (c)		contribute to HH income? (1.Yes/ 0.No)
		CODE		CODE	CODE		CODE
1	namehh1 ...	sexhh1	dobhh1 ...	eduhh1	occuphh1	otherhh1	incomhh1
2	namehh2 ...	sexhh2	dobhh2 ...	eduhh2	occuphh2	otherhh2	incomhh2
3	namehh3 ...	sexhh3	dobhh3 ...	eduhh3	occuphh3	otherhh3	incomhh3
4	namehh4 ...	sexhh4	dobhh4 ...	eduhh4	occuphh4	otherhh4	incomhh4
5	namehh5 ...	sexhh5	dobhh5 ...	eduhh5	occuphh5	otherhh5	incomhh5
6	namehh6 ...	sexhh6	dobhh6 ...	eduhh6	occuphh6	otherhh6	incomhh6
7	namehh7 ...	sexhh7	dobhh7 ...	eduhh7	occuphh7	otherhh7	incomhh7
8	namehh8 ...	sexhh8	dobhh8 ...	eduhh8	occuphh8	otherhh8	incomhh8
9	namehh9 ...	sexhh9	dobhh9 ...	eduhh9	occuphh9	otherhh9	incomhh9
10	namehh10 ...	sexhh10	dobhh10 ...	eduhh10	occuphh10	otherhh10	incomhh10
11	namehh11 ...	sexhh11	dobhh11 ...	eduhh11	occuphh11	otherhh11	incomhh11
12	namehh12 ...	sexhh12	dobhh12 ...	eduhh12	occuphh12	otherhh12	incomhh12
13	namehh13 ...	sexhh13	dobhh13 ...	eduhh13	occuphh13	otherhh13	incomhh13

Note:

(a) No
(1) The MW
(2) Spouse
(3) The child
(4) Caregiver
(5) Sibling1
(6) Sibling2
(7) Sibling3
(8) sibling4
(9) others
(10) others

(b) Education:
(1) No education
(2) Elementary, not graduated
(3) Elementary, graduated
(4) Junior High School, not graduated
(5) Junior High School, graduated
(6) Senior high school, not graduated
(7) Senior high school, graduated
(8) Academy
(9) University

(c) Main occupation (Currently):
(1) Farmer (land owner)
(2) Farmer (non land owner)
(3) Fisherman (boat owner
(4) Fisherman (non boat owner)
(5) Animal husbandary
(6) Gov't employee
(7) Private employee
(8) Enterpreneur
(9) Service sector
(10) Skilled labor
(11) Unskilled labor
(12) Housewife
(13) Unemployed
(14) Retired
(77) Others *(specify)*
(66) NR (<15 & > 55 yrs old)
(88) Do not know

***Note:** Household is defined as a groups of persons living in a physical building, usually live togteher and eat from the same kitchen (eat from the same kitchen means that the daily needs is managed as one) – BPS, 2009*

		CODE
1	What is the type of your family? 1. Extended family 2. Nuclear family	famtype
2	Who is the head of this household? 1. child's father 2. child's mother 3. child's grandmother 4. child's grandfather 77. Others *(specify)*	hhhead hhhead_oth .....
3	What was the initial of (this migrant worker) before working abroad? 1. Farmer (land owner) 2. Farmer (non land owner) 3. Fisherman (boat owner 4. Disherman (non boat owner) 5. Animal husbandary 6. Gov't employee 7. Private employee 8. Enterpreneur 9. Service sector 10. Skilled labor 11. Unskilled labor 12. Housewife 13. Unemployed 14. Retired 88. DNK (77)Others *(specify)*.....	initialoccup initialoccup_oth .....
4	What is the religion of (this migrant worker)? 1. Moslem 2. Protestant 3. Catholic 4. Buddhist 5. Hindu 6. Konghuchu	relig_mw

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Household identity_____ Sub District | Village | Resp. number

B. LABOR MIGRATION		CODE
1	What type of occupation is currently done by (this migrant worker)? 1. Private employee 3. Baby sitter 5. Domestic labor 77. Others ..... 2. Nurse 4. Industrial labor 6. Agriculture/plantation labor 88. DNK	occupwm ☐ occupwm_oth .....
2	In which country does he/she (this migrant worker) work? 1. Malaysia 3. Singapore 5. Hongkong 77. Others ..... 2. Saudi Arabia 4. Taiwan 6. Brunei Darussalam 88. DNK	destination ☐ destination_oth .....
3.	How long he/ she (this migrant worker) has been working as a migrant worker? ..... months	worklength ☐
4.	Who arrange the leaving of this migrant worker? 1 . Agency 2. Self arrangement 77. Others	arrange ☐ arrange_oth .....
5.	Does he/she (the migrant worker) has complete legal documents for her/his leaving? 1. Yes 0. No 88. DNK	legal ☐

C. SOCIO ECONOMIC STATUS

1. Please explain us about the remittance sent by (the migrant worker)

a. Type: 1. money 2. Goods, (specify)..... 3. both — typeremit ☐
66. NR *(if has never been sending remittance)*

b. Amount of money remitted : ..... — amountremit .....

c. Frequency of sending the remittance:.....times per year/ ..... times per months — freqremitmo ☐ freqremityr ☐

d. Utilization of the remittance:

Priority	CODE 1) yes 0) No 66) NR
C1. Pay loan	
C2. Primary need Food Non food	
C3. Saving	
C4. Investment, specify	
C5. Others, specify	

2. Household income per month

Household member		Occupation	Amount	Freq. (daily/ weekly/ monthly/ yearly)	Amount per month
1		a.	Rp.	..... times /.....	Rp.
		b.	Rp.	..... times /.....	Rp.
2		a.	Rp.	..... times /.....	Rp.
		b.	Rp.	..... times /.....	Rp.
3		a.	Rp.	..... times /.....	Rp.
		b.	Rp.	..... times /.....	Rp.
4		a.	Rp.	..... times /.....	Rp.
		b.	Rp.	..... times /.....	Rp.
5		a.	Rp.	..... times /.....	Rp.
		b.	Rp.	..... times /.....	Rp.
6		a.	Rp.	..... times /.....	Rp.
		b.	Rp.	..... times /.....	Rp.

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Household identity..... Sub District | Village | Resp. number

2. Household expenditure per month
(Note: for weekly and monthly, ask respondent to recall household expenditure last month)

Items	Daily		weekly		Monthly		Total/ month
	Freq	Amount	Freq	Amount	Freq	Amount	
1. Rice							
2. Staple food, other than rice							
3. Animal source food (Meat, egg, fish)							
4. Legumes, nuts, beans & products							
5. Snack for household							
6. Other food: Vegetables Fruit cooking oil Spices Tea, coffee, sugar etc.							
7. Drinking water/ clean water							
8. Cooking fuel (kerosene, firewood,LPG, charcoal, briket)							
9. Cigarette, alcohol, sirih							
10. Transportation							
11. Fuel (gasoline)							
12. Others							

Item (monthly)	Amount
13. Electricity	Rp
14. Phone bill (pulsa)	Rp
15. Social activities	Rp
16. Education	
School fee	Rp.
Books	Rp.
Pocket money	Rp.
Total education expenses	Rp
17. Expenses for health	Rp
18. Saving	Rp
19. Others (cosmetics, etc)	Rp

Item (yearly)	Amount
20. Tax	
PBB	Rp.
Vehicle (car, motocycle)	Rp.
Total tax expenses	Rp
21. Cloths	Rp
22. House rental expenses	Rp
23. Agriculture production expenses	
Land rental expenses	Rp.
Seeds	Rp.
Fertilizer	Rp.
Equipment, etc	Rp.
Total egriculture expenses	Rp
24. Expenses for *hari raya*	Rp
25. Others	Rp

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3. Which of the following appliances is/ are available in your household, before and after your spouse working as a migrant worker?

	Electronic goods	Before working as migrant worker CODE 1) Yes 0) NO	After working as a migrant worker CODE 1) Yes 0) NO
a	Radio/tape	asset_radio_b	asset_radio_a
b	TV	asset_tv_b	asset_tv_a
c	VCD/DVD player	asset_vcd_b	asset_vcd_a
d	Phone/HP	asset_phone_b	asset_phone_a
e	Washing machine	asset_wash_b	asset_wash_a
f	Rice cooker	asset_riceco_b	asset_riceco_a
g	Fan	asset_fan_b	asset_fan_a
h	Play Station (PS)	asset_PS_b	asset_PS_a
i	Refrigerator	asset_refrig_b	asset_refrig_a

	Other assets	Before working as migrant worker CODE 1) Yes 0) NO	After working as a migrant worker CODE 1) Yes 0) NO
j	Motorcycle	asset_moto_b	asset_moto_a
k	Car	asset_car_b	asset_car_a
l	Bycicle	asset_by_b	asset_by_a
m	Jewelry > 2grams	asset_jewel_b	asset_jewel_a
n	Shop/stall	asset_shop_b	asset_shop_a
o	Farm	asset_farm_b	asset_farm_a
p	Garden	asset_garden_b	asset_garden_a
q	Land	asset_land_b	asset_land_a
r	Others *(specify)*.....	ssset_other_b	ssset_other_a

4. Housing condition (observation)

		CODE
a. Lighting	1) Electricity 0) No electricity	light
b. Floor type	1) Permanent: cement, ceramic tile 3) non permanent: soil 2) Semi permanent: combination wood-bamboo	floor
c. Wall type	1) permanent : cement, brick 3) non permanent: bamboo, wood 2) semi permanent: combination brick-bamboo	wall
d. Roof type	1) permanent: cement, roof tile	roof

D. HOUSEHOLD FOOD PRODUCTION

1. What type of food crops do you cultivate and usage?

	Cultivations	The use/ CODE*
a	Rice	crop_rice
b	Corn	crop_corn
c	Roots or tubers	crop_root
d	Legumes	crop_legume
e	Fruits	crop_fruit
f	Vegetables	crop_vege
g	Others, specify.....	othercrop1
h	Others, specify.....	othercrop2
i	Others, specify.....	othercrop3

*Note: 1. For own consumption 3. Both

2. What type of livestock that you raise and usage?

	Livestock	The use/ CODE*
a	Poultry	live_poultry
b	Goat	live_goat
c	Cow	live_cow
d	Fish	live_fish
e	Others, specify.....	otherlive1
f	Others, specify.....	otherlive2
g	Others, specify.....	otherlive3

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E. FOOD STOCK FROM PURCHASING

1 How frequent do you usually purchase the following items for your household?

	Items	CODE: 1) daily 3) weekly 5) never 2) 2-3x/week 4) monthly		Items	CODE: 1) daily 3) weekly 5) never 2) 2-3x/week 4) monthly
a	Rice	pur_rice	e	Sugar	pur_sugar
b	Noodle	pur_noodle	f	Cooking oil	pur_cook_oil
c	Milk	pur_milk	g	Kerosene	pur_kerosene

2 Which of the following foods (obtained by buying) was available in the household yesterday?

	Food item	CODE: 1) yes 0) No
a.	Carbohydrate source, e.g. rice, noodle, cassava	availcarbo
b.	Protein from animal source (meat, poultry, fish,egg)	availanimprot
c.	Protein from plant source	availplantprot
d.	Vegetables	availvege
e	Fruits	availfruit

3. Now, I would like to ask you about your household's food supply during different months of year. In the past 12 month, were there months in which you did not have enough food to meet your family's need? 1) yes 0) no (*if no, go to section F*) — CODE: month_nofood

4. Which were the months in the past 2 months in which you did not have enough food to meet your family's needs?

	Month	CODE: 1) Yes 0) No 66) NR		Month	CODE: 1) Yes 0) No 66) NR
a	January	nofood_jan	g	July	nofood_july
b	February	nofood_feb	h	August	nofood_aug
c	March	nofood_mar	i	Sept	nofood_sept
d	April	nofood_apr	j	October	nofood_oct
e	May	nofood_may	k	Nov	nofood_nov
f	June	nofood_jun	l	Dec	nofood_dec

F. PHYSICAL ACCESS TO FOOD

1 Is there any of these following shopping facilities available in your living environment?

	Shopping facilities	CODE: 1) yes 0) No			CODE: 1) yes 0) No
a	Traditional market	market	c	Street vendor	streetvendor
b	Local shop (*warung/kios*)	localshop	d	Super/mini-market	supermarket

2	How far is the distance between your house and the market? ..... meters ..... kms	distance_marketm distance_marketkm
3	How long do you usually take to reach the market? .....minutes	duration_market
4	How do you get to the nearest shopping facilities? 1) Walking 3) Using public transportation 2) Using private transportation 77) Others (*specify*).....	wayloget_shop
5	If using public transportation, how much do you usually pay for the transportation (return)?	transportfee .....
6	Do you get your staple food easily? 1) Yes 0) No	staple_easy
7	If no. 6 is no, why?	
8	Do you get your side dish easily? 1) Yes 0) No	sidedish_easy

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9	If no. 8 is no, why?	
10	Do you get your fruits easily? 1) Yes 0) No	fruitvege_easy
11	If no. 10 is no, why?	
12	Do you get your vegetables easily? 1) Yes 0) No	fruitvege_easy
13	If no. 12 is no, why?	

G. FOOD / NON FOOD ASSISTANCE

What kind of assistance your household received for the last 6 **month**?
Do you think those assistance may help you to fulfill the need of food for your household?

Type of Assitance	Source: 1.Gov't 2.NGO 77.others (spec) 99. not receive — CODE	Other source	Freq	Help to fulfill HH food need? 1) Yes 0) No — CODE
1. Food aid	src_foodaid	.....	...	ffill_foodaid
2. Food discounted price (i.e *raskin, sembako murah*)	src_foodisc	.....	...	ffill_fooddisc
3. Cash transfer (i.e BLT)	src_cash	.....	...	ffill_cash
4. Complementary food for children	src_comp	.....	...	ffill_comp
5. Health insurance (i.e Askeskin, Jamkesmas)	src_health	.....	...	ffill_health
6. Education assistance (i.e BOS)	src_educ	.....	...	ffill_educ
7. Agricultural assistance (i.e seeds, fertilizer etc)	src_agri	.....	...	ffill_agri
8. Others, specify.....	src_others	.....	...	ffill_others

H. SOCIAL CAPITAL

Please mention community organizations which exist in your neighborhood, and your/your HH member involvement in those organization

Community organization	Existence 1) Yes 0) No — CODE	Involvement 1) Yes 0) No 66)NR — CODE	Your/ your HH member role/ support
1. Farmer group/ association	exist_farmgroup	invol_farmgroup	.....
2. Women association (eg. *PKK*)	exist_wmengroup	invol_womengroup	.....
3. Religious group (eg. *pengajian*)	exist_religigroup	invol_religigroup	.....
4. Saving/ credit group (eg. *Koperasi*)	Exist_savegroup	invol_savegroup	.....
5. *Karang Taruna*	exist_kartar	invol_kartar	.....
6. *Lumbung Desa*	exist_lumbung	invol_lumbung	.....
7. Others (specify)	exist_other	invol_other	.....

Now I will read some statements. For every statement that I read, please mention wheter it is correct or not

	Statement	CODE 1) Yes 0) No
1	People around here are willing to help their neighbors	sc_help
2	This is a close-knit, or "tight" neighborhood where people generally know one another	sc_close
3	If I had to borrow $30 in an emergency, I could borrow it from neighbor	sc_money
4	People in this neighborhood generally don't get along with each other	sc_getalong
5	People in this neighborhood can be trusted	sc_trust
6	If I were sick, I could count on my neighbors to shop groceries for me	sc_sick
7	People in this neighborhood do not share the same value	sc_share

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13	In the last 1 year, have you ever faced economic difficulties? 1) yes 0) No ***(if no, go to no15)***	sc_ecodifficult

14 If yes (no13), to whom you asked for assistance?

Source of assistance	1) Yes 0) No 66)NR CODE
Relatives	relative_assist
Neighbors	neighbor_assist
Community group member	group_assist
Community leader	comleader_assist
Colleagues who live in other village/ sub district/ district	colleagues_assist
Others, specify.....	other_assist

15 If one day your household has an economic problem, to whom you will ask for assistance?

Source of assistance	1) Yes 0) No 66)NR CODE
Relatives	relative_assist
Neighbors	neighbor_assist
Community group member	group_assist
Community leader	comleader_assist
Colleagues who live in other village/ sub district/ district	colleagues_assist
Others, specify.....	other_assist

I. COPING STRATEGY

In the past 30 days, is there have been times when you did not have enough food or money to buy food, and how often has your household had to:	CODE 0= never 1= Hardly at all (<1x/minggu) 2= Once in awhile (1-2x/minggu) 3= Pretty often (3-6x/miggu) 4= all the time (everyday)

FAO indicators:

1	Rely on less preferred and less expensive food?	buycheapfood
2	Borrow food, or rely on help from friend or relative?	borrowfood
3	Purchase food on credit?	creditfood
4	Gather wild food, hunt, or harvest immature crops?	wildfood
5	Consume seed stock held for net season?	seed
6	Limit portion size at mealtime?	limitportion
7	Restrict consumption by adult in order for small children to eat?	limitadult
8	Ration the money you have and buy prepared food?	instantfood
9	Reduce number of meals eaten in a day?	Reducefreq
10	Skip entire days without eating	noteat

Additional indicators

11	Change the staple food	Changestaple
12	Mix the staple food	mixstaple

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J. HOUSEHOLD FOOD SECURITY STATUS

US- FSSM

Questionnaire transition into module--administer to all households: These next questions are about the food eaten in your household in the last 12 months, since (current month) of last year, and whether you were able to afford the food you need.

General food sufficiency question/screener: Questions 1, 1a, 1b (OPTIONAL: These questions are NOT used in calculating the food-security/hunger scale.)

Question 1 may be used as a screener: (a) in conjunction with income as a *preliminary* screen to reduce respondent burden for *higher income households only*; and/or (b) in conjunction with the 1st-stage internal screen to make that screen "more open"--i.e., provide another route through it.

1	Which of these statements best describes the food eaten in your household in the last 12 months [1] Enough of the kinds of food we want to eat [SKIP 1a and 1b] [2] Enough but not always the kinds of food we want [SKIP 1a; ask 1b] [3] Sometimes not enough to eat [Ask 1a; SKIP 1b] [4] Often not enough [Ask 1a; SKIP 1b] [ ] DK or Refused (SKIP 1a and 1b)	FSSM_1 ☐
1a	[IF OPTION 3 OR 4 SELECTED, ASK] Here are some reasons why people don't always have enough to eat. For each one, please tell me if that is a reason why YOU don't always have enough to eat. [READ LIST. MARK ALL THAT APPLY.] 1. Not enough money for food 2. Not enough time for shopping or cooking 3. Too hard to get to the store 4. On a diet 5. No working stove available 6. Not able to cook or eat because of health problems	1= Yes 88= DNK 0= No 66= NR FSSM_1a1 ☐ FSSM_1a2 ☐ FSSM_1a3 ☐ FSSM_1a4 ☐ FSSM_1a5 ☐ FSSM_1a6 ☐
1b	[IF OPTION 2 SELECTED, ASK] Here are some reasons why people don't always have the quality or variety of food they want. For each one, please tell me if that is a reason why YOU don't always have the kinds of food you want to eat. [READ LIST. MARK ALL THAT APPLY.] 1. Not enough money for food 2. Kinds of food (I/we) want not available 3. Not enough time for shopping or cooking 4. Too hard to get to the store 5. On a special diet	1= Yes 88= DNK 0= No 66= NR FSSM_1b1 ☐ FSSM_1b2 ☐ FSSM_1b3 ☐ FSSM_1b4 ☐ FSSM_1b5 ☐
Now I'm going to read you several statements that people have made about their food situation. For these statements, please tell me whether the statement was often true, sometimes true, or never true for (you/your household) in the last 12 months, that is, since last (name of current month).		1. Often true 2. Sometimes true 3. Never true 88. DNK/ Refused
2	"(I/We) worried whether (my/our) food would run out before (I/we) got money to buy more." Was that often true, sometimes true, or never true for (you/your household) in the last 12 months?	FSSM_2 ☐
3	"The food that (I/we) bought just didn't last, and (I/we) didn't have money to get more." Was that often, sometimes, or never true for (you/your household) in the last 12 months?	FSSM_3 ☐
4	"(I/we) couldn't afford to eat balanced meals." Was that often, sometimes, or never true for (you/your household) in the last 12 months?	FSSM_4 ☐
5	"(I/we) relied on only a few kinds of low-cost food to feed (my/our) child/the children) because (I was/we were) running out of money to buy food." Was that often, sometimes, or never true for (you/your household) in the last 12 months?	FSSM_5 ☐
6	"(I/We) couldn't feed (my/our) child/the children) a balanced meal, because (I/we) couldn't afford that." Was that often, sometimes, or never true for (you/your household) in the last 12 months?	FSSM_6 ☐

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1st-level Screen (screener for Stage 2): If AFFIRMATIVE RESPONSE to ANY ONE of Questions 2-6 (i.e., "often true" or "sometimes true") OR response [3] or [4] to Question 1 (if administered), then continue to Stage 2; otherwise, skip to end.

Stage 2: Questions 7-11 –ask households passing the 1st-level Screen: (estimated 40% of hh's < 185% Poverty; 5.5% of hh's > 185% Poverty; 19% of all households).

7	"(My/Our child was/The children were) not eating enough because (I/we) just couldn't afford enough food." Was that often, sometimes, or never true for (you/your household) in the last 12 months?	1. Often true 2. Sometimes true 3. Never true 88. DNK or R	FSSM_7 ☐
8	In the last 12 months, since last (name of current month), did (you/you or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food?	1. Yes 0. No (SKIP 8a) 88. DNK or R (SKIP 8a)	FSSM_8 ☐
8a	[IF YES ABOVE, ASK] How often did this happen--- almost every month, some months but not every month, or in only 1 or 2 months?	1. Almost every month 2. Some months but not every month 3. Only 1 or 2 months 88. DK or R	FSSM_8a ☐
9	In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money to buy food?	1. Yes 0. No 88. DNK or R	FSSM_9 ☐
10	In the last 12 months, were you every hungry but didn't eat because you couldn't afford enough food?	1. Yes 0. No 88. DNK or R	FSSM_10 ☐
11	In the last 12 months, did you lose weight because you didn't have enough money for food?	1. Yes 0. No 88. DNK or R	FSSM_11 ☐

2nd-level Screen (screener for Stage 3): If AFFIRMATIVE RESPONSE to ANY ONE of Questions 7 through 11, then continue to Stage 3; otherwise, skip to end.

Stage 3: Questions 12-16 --ask households passing the 2nd-level Screen: (estimated 7-8% of hh's < 185% Poverty; 1-1.5% of hh's > 185% Poverty; 3-4% of all hh's).

12	In the last 12 months, did (you/you or other adults in your household) ever not eat for a whole day because there wasn't enough money for food?	1. Yes 0. No (SKIP 12a) 88. DK or R (SKIP 12a)	FSSM_12 ☐
12 a	[IF YES ABOVE, ASK] How often did this happen--- almost every month, some months but not every month, or in only 1 or 2 months?	1. Almost every month 2. Some months but not every month 3. Only 1 or 2 months 88. DK or R	FSSM_12a ☐
The next questions are about children living in the household who are under 18 years old.			
13	In the last 12 months, since (current month) of last year, did you ever cut the size of (your child's/any of the children's) meals because there wasn't enough money for food?	1. Yes 0. No 88 DNK or R	FSSM_13 ☐
14	In the last 12 months, did (CHILD'S NAME/any of the children) ever skip meals because there wasn't enough money for food?	1. Yes 0. No (SKIP 14a) 88. DK or R (SKIP 14a)	FSSM_14 ☐
14 a	[IF YES ABOVE ASK] How often did this happen--- almost every month, some months but not every month, or in only 1 or 2 months?	1. Almost every month 2. Some months but not every month 3. Only 1 or 2 months 88. DK or R	FSSM_14a ☐
15	In the last 12 months, (was your child/ were the children) ever hungry but you just couldn't afford more food?	1. Yes 0. No 88. DNK or R	FSSM_14 ☐
16	In the last 12 months, did (your child/any of the children) ever not eat for a whole day because there wasn't enough money for food?	1. Yes 0. No 88. DNK or R	FSSM_16 ☐

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II. QUESTIONAIRE FOR CAREGIVERS

Name of the caregiver: ..... age: .....years old
What is your relation with this child?
1) father 3) older sister 5) grandmother 7) other relative 9) servant
2) mother 4) older brother 6) grandfather 8) neighbor

K. RESOURCES FOR CARE

K1. Knowledge

		CODE
1	What do you know about balance meal? *(DO NOT READ THE OPTIONS)* 1.Meal which is consist of varied food 1. Meal which is nutrient balance 55. Others (specify)	variedfood nutrientbalance
2	Which one among these practices which is the worst on increasing fat in the body? *(READ THE OPTIONS)* 1. Consuming meat too much 1. Consuming fried food too much 1. Consuming food contain coconut milk too much	fat_meat fat_friedfood fat_cocomilk
3	What are the consequences of iodine deficiency? *(DO NOT READ THE OPTIONS)* 1. Cretin 1. Low IQ	iod_cretin iod_iq
4	Please mention food which are rich in iron *(DO NOT READ THE OPTION)* 1. Meat, liver and other animal source food 1. Legumes, nuts 1. Dark green leafy vegetables	iron_meat iron_legumes iron_dglv
5.	How long (until what age) a baby should be given breatsmilk only, without any other food? *(DO NOT READ THE OPTION)* 1. 6 months 0. other than 6 months	EBF
6.	What are the importances of physical activity? *(DO NOT READ THE OPTION)* 1. Increase fitness 1. Prevent overweight 1. Improve the function of heart, lung, and muscle	pa_fitness pa_overweight pa_function
7	What is the importance of vitamin A supplementation? *(DO NOT READ THE OPTION)* 1. To prevent blindness 1. To increase immune function	vita_blindness vita_immune
8	Why under-five children should be weight in Posyandu monthly? *(DO NOT READ THE OPTION)* 1. To monitor the growth 0. Other than to monitor growth	know_growth
9	What is the importance of immunization for children? *(DO NOT READ THE OPTION)* 1. To prevent child from sickness/ to increase child immunity 0. Other than to prevent child from sickness/ to increase child immunity	know_immun
10	What kind of treatment should be given to children when he/she get diarrhea? *(DO NOT READ THE OPTION)* 1. Give ORS/oralit 1. Give HH fluids	ors_oralid hhfluid

K2. Workload/ time availability

			CODE
1	Do you feel overburdened by your daily domestic work?	1) Yes 0) No	overburden
2	Is there anybody who helps you doing housework?	1) Yes 0) No	otherhelp
3	How many children under your responsibility for caring?		numberchild

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24 hour recall activities

Did you have usual or extraordinary activities yesterday?

1) usual 2) extraordinary usualactiv

Please mention all activities you did yesterday/ the day before yesterday, in sequence and how long you did them

(Note: if yesterday was usual, ask yesterday's activities. If not, ask the day before yesterday)

Time	Activities	Time	Activities
..... to		..... to	
..... to		..... to	
..... to		..... to	
..... to		..... to	
..... to		..... to	
..... to		..... to	
..... to		..... to	
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..... to		..... to	
..... to		..... to	
..... to		..... to	

Note: Please fill in this recapitulation

4. Time spent for doing the main occupation: ..... hours time_mainoccup
5. Time spent for doing the households works: ..... hours time_hhwork
6. Time spent caring the child: ..... hours time_childcare

K3. Social support CODE

1	Do you have somebody to be trusted to tell your problem or to ask and advice?	1) Yes 0) No	discussproblem
2	Do you have somebody to be trusted discuss about infant/child problem?	1) Yes 0) No	discusschildprob
3.	IF you have another business and have to leave your child, who will take care of your child? 1. Prents 2. Parents in law 3. older child 4. Other family member 5. Neighbor 6. No one		alternatecare

K4. Mental Health - Beck's Depression Inventory II CODE

1	(0) I do not feel sad. (1) I feel sad (2) I am sad all the time and I can't snap out of it. (3) I am so sad and unhappy that I can't stand it.	bdi_1
2	(0) I am not particularly discouraged about the future. (1) I feel discouraged about the future. (2) I feel I have nothing to look forward to. (3) I feel the future is hopeless and that things cannot improve.	bdi_2
3	(0) I do not feel like a failure. (1) I feel I have failed more than the average person. (2) As I look back on my life, all I can see is a lot of failures. (3) I feel I am a complete failure as a person.	bdi_3
4	(0) I get as much satisfaction out of things as I used to. (1) I don't enjoy things the way I used to.	bdi_4

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	(2) I don't get real satisfaction out of anything anymore. (3) I am dissatisfied or bored with everything.	
5	(0) I don't feel particularly guilty (1) I feel guilty a good part of the time. (2) I feel quite guilty most of the time. (3) I feel guilty all of the time.	bdi_5
6	(0) I don't feel I am being punished. (1) I feel I may be punished. (2) I expect to be punished. (3) I feel I am being punished.	bdi_6
7	(0) I don't feel disappointed in myself. (1) I am disappointed in myself. (2) I am disgusted with myself. (3) I hate myself.	bdi_7
8	(0) I don't feel I am any worse than anybody else. (1) I am critical of myself for my weaknesses or mistakes. (2) I blame myself all the time for my faults. (3) I blame myself for everything bad that happens.	bdi_8
9	(0) I don't have any thoughts of killing myself. (1) I have thoughts of killing myself, but I would not carry them out. (2) I would like to kill myself. (3) I would kill myself if I had the chance.	bdi_9
10	(0) I don't cry any more than usual. (1) I cry more now than I used to. (2) I cry all the time now. (3) I used to be able to cry, but now I can't cry even though I want to	bdi_10
11	(0) I am no more irritated by things than I ever was. (1) I am slightly more irritated now than usual. (2) I am quite annoyed or irritated a good deal of the time. (3) I feel irritated all the time.	bdi_11
12	(0) I have not lost interest in other people. (1) I am less interested in other people than I used to be. (2) I have lost most of my interest in other people. (3) I have lost all of my interest in other people.	bdi_12
13	(0) I make decisions about as well as I ever could. (1) I put off making decisions more than I used to. (2) I have greater difficulty in making decisions more than I used to. (3) I can't make decisions at all anymore.	bdi_13
14	(0) I don't feel that I look any worse than I used to. (1) I am worried that I am looking old or unattractive. (2) I feel there are permanent changes in my appearance that make me look unattractive (3) I believe that I look ugly.	bdi_14
15	(0) I can work about as well as before. (1) It takes an extra effort to get started at doing something. (2) I have to push myself very hard to do anything. (3) I can't do any work at all.	bdi_15
16	(0) I can sleep as well as usual. (1) I don't sleep as well as I used to. (2) I wake up 1-2 hours earlier than usual and find it hard to get back to sleep. (3) I wake up several hours earlier than I used to and cannot get back to sleep.	bdi_16
17	(0) I don't get more tired than usual. (1) I get tired more easily than I used to. (2) I get tired from doing almost anything. (3) I am too tired to do anything.	bdi_17
18	(0) My appetite is no worse than usual. (1) My appetite is not as good as it used to be. (2) My appetite is much worse now.	bdi_18

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	(3) I have no appetite at all anymore.	
19	(0) I haven't lost much weight, if any, lately. (1) I have lost more than five pounds. (2) I have lost more than ten pounds. (3) I have lost more than fifteen pounds.	bdi_19
20	(0) I am no more worried about my health than usual. (1) I am worried about physical problems like aches, pains, upset stomach, constipation. (2) I am very worried about physical problems and it's hard to think of much else. (3) I am so worried about my physical problems that I cannot think of anything else.	bdi_20
21	(0) I have not noticed any recent change in my interest in sex. (1) I am less interested in sex than I used to be. (2) I have almost no interest in sex. (3) I have lost interest in sex completely.	bdi_21

L. CHILD CARE PRACTICE

		CODE
1.	Where (the most) did you usually bring your child when he/she get sick? 1. Posyandu/ puskesmas 4. Traditional healer 88. DNK 2. Hospital 66. NA 3. Private doctor 77. Other	care_place_sick

2. What do you do if your child doesn't want to eat?
(DO NOT READ THE OPTIONS, ALLOW TO ANSWER MORE THAN 1)

			CODE
a	Eating while playing	1) Yes 0) No	eatandplay
b	Holding the child	1) Yes 0) No	hold
c	Giving food which the child like	1) Yes 0) No	favorfood
d	Persuade child to eat	1) Yes 0) No	persuade
e	Look after the c, stop working	1) Yes 0) No	lookafter
f	Others	1) Yes 0) No	other_childnoeat

3	What do you do if your child cries while you are busy in doing household cores? 1. Ignore the child crying, continue work 77. Others (*specify*)..... 2. Ask somebody to handle the child 66. NR (*for the older child*)	carecry

4. When do you usually wash your hand?
(DO NOT READ THE OPTIONS, ALLOW TO ANSWER MORE THAN 1)

			CODE
a	Before eating	1) Yes 0) No	before_eat
b	Before feed the child	1) Yes 0) No	before_feed
c	After defecating	1) Yes 0) No	after_defecate
d	After help the child defecate	1) Yes 0) No	before_prepare
e	Before preparing the food	1) Yes 0) No	other_washhand

5. How frequent your child usually:
(DO NOT READ THE OPTIONS)

			CODE
a	take a bath per day	1) < 2x 2) 2-3x 3) >3x	takebath
b	Wash his/her hair	1) 1x/wk 2) 2x/wk 3)3x/wk 4)everyday	washhair
c.	Brush his/her teeth	1) > 2 times 2) < 2 times	brushteeth

6.	Where do you usually defecate? 1. Public latrine 3. Yard 5. river 2. Own latrine 4. Gaden/ forest 6. others	
7.	Where does your child usually defecate? 1. Public latrine 3. Yard 5. river 2. Own latrine 4. Gaden/ forest 6. others	

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Household identity _____ Sub District | Village | Resp. number

8 Observation: Hygiene and sanitation

8.1 Child's cleanliness

			CODE
a	State of the child's hand and fingernail	0) dirty 1) dusty 2) clean	childhandnail
b	State of the child's hair	0) dirty 1) dusty 2) clean	childhair
c	State of the child's body	0) dirty 1) dusty 2) clean	chidbody
d	State of the child's face	0) dirty 1) dusty 2) clean	childface
e	Child have runny nose/ not	0) yes 1) no	childrunose

8.2 Caregiver's cleanliness

			CODE
a	State of the caregiver's hand and fingernail	0) dirty 1) dusty 2) clean	caregivhand
b	State of the caregiver's hair	0) dirty 1) dusty 2) clean	caregivhair
c	State of the caregiver's clothes	0) dirty 1) dusty 2) clean	caregivcloth
d	State of the caregiver's body	0) dirty 1) dusty 2) clean	caregivbody

8.3 House interior sanitation

			CODE
a	Does the interior of the house look like it needs to be swept?	0) yes 1) no	inhouseswept
b	Is the drinking water container covered?	0) yes 1) no	watercovered
c	ventilation	0) not sufficient 1) sufficient	ventilation
d	Latrine type: 1) Latrine with septic tank 2) Latrine without septic tank 66) NR (no latrine)		latrine

8.4 House exterior cleanliness

			CODE
a	Does the area around the house look like it needs to be swept?	0) yes 1) no	houseswept
b	Can human feces be observed around the house?	0) yes 1) no	feces
c	Can animal droppings be observed around the house?	0) yes 1) no	droppings
d	Can garbage be observed around the house?	0) yes 1) no	garbage

M. HEALTH STATUS OF THE CHILD

			CODE
1	Is the child suffering from the following illness today?		
	a. Diarrhea (frequency of defecate is >3 times/day and have loose stool consistency)	1) yes 0) no	diarrhea_today
	b. ARI (Acute Respiratory Infection) (common cough, cold, fever)	1) yes 0) no	ari_today
2	Is the child suffering from the following illness in the last 2 weeks?		
	a. Diarrhea (frequency of defecate is >3 times/day and have loose stool consistency)	1) yes 0) no	diarrhea_2wk
	b. ARI (Acute Respiratory Infection) (common cough, cold, fever)	1) yes 0) no	ari_2wk

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N. DIETARY INTAKE

FORM 24 HOURS RECALL

Time	Menu/Kind of Food (including supplements & drinks)	Type of Food/Ingredients	Amount consumed	
			Portion in HH measurement	Weight (gr)

1	Is this intake different from usual intake of the child?	0. No 1. Yes	88. DNK	☐
2	If yes, how does differ?			
3	Did your child consume cuplement? 1. Yes (specify.............................., amount..............................) 0. no			☐
4	Meal frequency? .... times			☐
5	Snack frequency? .... times			☐

CHILDREN DIETARY DIVERSITY SCORE

Note: No need to ask Children DDS. This will be derived from 24 hour recall

No	Food group	Example	CODE 1) Yes 0) No
1	Grains, roots, tubers	Bread, rice, noodle, biscuits, cookies, maize, white potatoes, white yams, cassava	cdds_grain
2	Vitamin A-rich plant foods	Pumpkin, carrots, squash, sweet potato, mango, papaya or other yellowish fruits, dark green leafy vegetables such as cassava leaves, kale, spinach	cdds_vita
3	Other fruits or vegetables	Any fruits and vegetables other than mentioned in no. 2	cdds_otherfrut
4	Meat, poultry, fish, seafood	Beef, lamb, goat, rabbit, chicken, duck, liver, kidney, heart or other organ meat, fresh or dried fish, shellfish	cdds_meat
5	Eggs	Egg	cdds_egg
6	Pulses/ legumes/ nuts	Foods made from beans, peas, lentils	cdds_pulses
7	Milk and milk products	Milk, cheese, yogurt, or other milk products	cdds_milk
8	Foods cooked in oil/fat	Foods cooked or made with oil, fat, butter	cdds_oil

HOUSEHOLD DIETARY DIVERSITY SCORE

No	Food group	Example	CODE 1) Yes 0) No
1	Cereals	corn/maize, rice, wheat, sorghum, millet or any other grains or foods made from these (e.g. bread, noodles)	hdds_cereal
2	White tubers and roots	white potatoes, white yams, white cassava, or other foods made from roots	hdds_tuber
3	Vegetables	pumpkin, carrots, squash, or sweet potatoes that are orange inside, other locally available vitamin-A rich vegetables (e.g. red sweet pepper), dark green/leafy vegetables, including wild ones + locally available vitamin-A rich leaves such cassava leaves, spinach etc., other vegetables (e.g. tomato, onion, eggplant) including wild vegetables	hdds_vege
4	Fruits	ripe mangoes, cantaloupe, ripe papaya, other locally available vitamin A-rich fruits, other fruits, including wild fruits	hdds_fruit
5	Meat	liver, kidney, heart or other organ meats or blood-based foods, beef, lamb, goat, rabbit, wild game, chicken, duck, or other birds	hdds_meat
6	Egg	chicken, duck, guinea hen or any other egg	hdds_egg
7	Fish & other seafood	fresh or dried fish or shellfish	hdds_fish
8	Legumes, nuts, seeds	beans, peas, lentils, nuts, seeds or foods made from these	hdds_legume
9	Milk & milk products	milk, cheese, yogurt or other milk products	hdds_milk
10	Oils and fat (and red palm oil if applicable)	oil, fats or butter added to food or used for cooking	hdds_oil
11	Sweets	sugar, honey, sweetened soda or sugary foods such as chocolates, candies, cookies and cakes	hdds_sweet
12	Spices, condiments, beverages	spices(black pepper, salt), condiments (soy sauce, hot sauce), coffee, tea	Hdds_spices

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O. NUTRITIONAL STATUS

O1. CHILDREN

Child's name: .....
Date of Assessment: ..... / ..... / ..... (dd/mm/yy)
Child' birth Date : ..... / ..... / ..... (dd/mm/yy)
Child's sex : 1. Boy 2. Girl
Position of height or length measurement : 1). standing 2).supine

Indicator	1st measurement	2nd measurement	Average
Weight (kg)			
Height/Length (cm)			

Note: Maximum difference between 1st and 2nd measurement should not > 0.2

O.2. CAREGIVER

Are you pregnant right now?
0. No
1. Yes, what month .....
2. Not Sure
66. NR (for male caregiver)
88. DNK

Indicator	1st measurement	2nd measurement	Average
Weight (kg)			
Height (cm)			
LILA			

THANKS FOR YOUR PARTICIPATION

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GUIDELINE QUESTIONS FOR FOCUS GROUP DISCUSSION
AMONG SPOUSE OF THE MIGRANT WORKERS
IN TULUNGAGUNG DISTRICT, EAST JAVA PROVINCE
SEAMEO TROPMED RCCN UI

Date of FGD (mm/dd/yyyy) : _____	Moderator: _____
Time (start-end) : _____	Note taker: _____
Sub District : _____	Number of participant: _____
Village : _____	Attached to male/ female: _____

General Guidelines for the moderator:

1. Introduce yourself (and other members of the team) and mention the purpose of the meeting.
2. Make sure that the note taker is ready.
3. Ask for their consent about using tape recorder to record the conversation.
4. Let them know that they can speak freely & ensure that there is no right & wrong answer.
5. Ask the participants name & let them introduce themselves.
6. Use the guideline questions & probe wisely to obtain the answers
7. Note the time frame (should be within 60-90 minute-duration). Note taker could give signal to moderator on remaining time.
8. Do not forget to ask the participants whether they have additional comments for each topic.
9. Be keen in observing each participants performance, make sure that everyone participates in the conversation.
10. In cases in a very dominant participants is present, ask any member of the team to exclude her from the group (alternatively, do indepth interview with the person!)
11. Thank the participants right afterwards the meeting.

DATA OF PARTICIPANTS

No	Name	Age	No of children	Data of the migrant workers						
				Country of destination	Occupation	How long has been working	Frequency of sending the remittance	Amount of remittance	How the remittance sent	Regularity of the remittance
1										
2										
3										
4										
5										
6										
7										
8										

I. LABOR MIGRATION

1. What are the reasons of your household member to work abroad as migrant workers?
2. Who influence the decision of your HH member to work abroad as migrant worker?
   Probe:
   a. Influence from family, friends, others?
   b. How the MW decided to choose the country of destination?
3. Who is preferred by your HH member to work abroad as migrant worker? Why?
   Probe: male/ female; married/ unmarried HH member; husband/ wife; parent/ children
4. Who arrange the leaving of (this migrant worker)?
   Probe:
   a. How did the process of your spouse on being a migrant worker?
   b. How did the involvement of local government? MW agency?

5. Did (this migrant worker) ever tell to you or other family member about his/her problems during his/her works abroad? If yes, what are the problems?
6. How does the frequency of contact between you/ other family member with (this migrant worker)? What means of communication do you usually use to communicate with her/him?

7. How do you utilize the remittance? Please mention the prioritization of using the remittance

Priority	Respondent							
	1	2	3	4	5	6	7	8
Pay loan								
Primary need a. Food b. Non food								
Saving								
Investment								
Others								
Others								
Others								

8. Did you ever received the remittance too late?
   Probe: If yes
   a. what are the consequences?
   b. How did you cope

II. CHILD CARE
1. Given the absence of your spouse who works abroad, do you have or did you ever had problems on managing your household activities?
   Probe: If yes,
   a. What are they?
   b. What are the solution/how do you cope with this?
2. Given the absence of your spouse who works abroad, do you have or did you ever had problems on caring your child?
   Probe: If yes,
   a. What are they?
   b. What are the solution/how do you cope with this?
3. What is your opinion, is there any difference of problems faced by HH left by father and left by mothers who works as migrant workers
   Probe: if yes, how does it differ?

III. FOOD SECURITY
1. What do you think about the sufficiency of food in your household
2. Have you ever experience lack of food previously, before your spouse working as migrant worker?
   Probe: if yes,
   a. When?
   b. Why?
   c. How did you cope with this condition?
3. Have you ever experience lack of food during your spouse working as migrant worker?
   Probe: if yes,
   a. When?
   b. Why?
   c. How did you cope with this condition?
4. What do you think about your HH's economic condition before and after your spouse working as a migrant worker? Is there any difference? If yes, please explain
5. What do you think about your HH food security before and after your spouse working as a migrant worker?
   Is there any difference? If yes, please explain
6. Is there any seasonal fluctuation over the years regarding the sufficiency of food in your household?

IV. SOCIAL CAPITAL

What kind of supports available in this community?
Probe:

a. Support from NGO?
b. Support from local government?
c. Support from family/ relatives?

Additional question: how many days is the average number of working days for daily labor in this area?

V. COPING STRATEGY INDEX

1. During food insecurity/ food shortage, a household usually will do actions/strategies to cope with this condition, in order to feed the household member. What are the actions/ strategies have ever done by your household (*if the participant ever experienced food insecurity*) or usually done by people in this community (*if the participant have never experienced food insecurity*)
   Note: first step, fill in column 2 to find the list of coping actions

Coping strategy	Coping actions	Rank of severity
(1)	*(2)*	*(3)*
Dietary change	Rely on less preferred and less expensive foods?	
	.....	
Short term measure to increase HH food availability	Borrow food or rely on help from a friend or relative?	
	Purchase food on credit?	
	Gather wild food, hunt or harvest immature crops?	
	Consume seed stock held for the next season?	
	.....	
	.....	
Short term measure to decrease number of people to eat	Send children to eat with neighbors?	
	Send HH member to beg?	
	.....	
	.....	
Rationing, or managing the shortfall	Limit portion size at mealtime?	
	Restrict consumption by adults in order for small children to eat?	
	Feed working members of HH at the expense of non-working members?	
	Ration the money you have and buy prepared food?	
	Reduce number of meals eaten in a day?	
	Skip entire days without eating?	
	.....	
	.....	

2. What do you think about the severity of those actions?
   Probe:
   a. Which action is the most severe? .....
   b. Which actions is the least severe? .....
   c. Is/ are there any other action(s) which have the same level of severity with..... (*the most severe action which already choosen in 2.a)*
      .....
      .....
      .....
   d. Is/ are there any other action(s) which have the same level of severity with..... (*the least severe action which already choosen in 2.ba)*
      .....
      .....
      .....

e. Which action(s) is slightly less severe than the most severe?

.....
.....
.....

f. Which action(s) is slightly more severe than the least severe?

.....
.....
.....

g. Put the severity of the other remaining actions