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NATIONAL NUTRITION STRATEGY PAPER OF INDONESIA

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Foreword

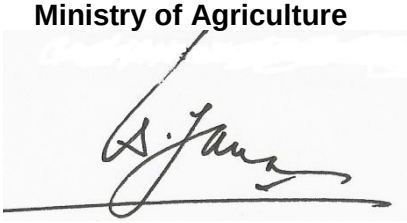
World Declaration and Plan of Action for Nutrition has been declared in the 1992 International Conference on Nutrition (ICN). In the two decades following the ICN, improvement has been made, on the other hand there are another challenges and problems to be resolved to improve food and nutrition security In Indonesia. The government has responded to the agreement / recommendation of the ICN, by taking the development of food security and nutrition as a priority, in National Long-Term Development Plan (RPJPN 2005-2025) promulgated through Law 17/2007. The Acceleration of food and nutrition programs is implemented through the National and Regional Plan of Action for Nutrition. For two decades, nutritional status tends to be improved, it is proofed by the decreasing of the prevalence of malnutrition among children under five or underweight infants.

A decade ago, the world economy, including Indonesia, experienced a crisis, in addition to that condition, several severe natural disasters which occurred must have an impact on the national development conditions, including nutritional status, food and agriculture, which lead to the greater number of hunger and poverty. However, with tremendous effort of the Government to formulate policies, programs and actions as well as to coordinate with cross sectoral stakeholders in the field of food, nutrition, and agriculture has produced a significant results.

This achievement also represents Indonesia's contribution to global development and realization on the more prosperous world. This report provides details on achievement of agriculture, food security, nutrition and health in 2013. This report also briefly outlines the challenges, current policy, as well as upcoming strategy on food security and nutrition. Successes that have been achieved are a manifestation of the commitment and hard work by the Government and all members of society towards a more prosperous Indonesia.

In conclusion, I would like to extend my gratitude to all those who have contributed to preparation and publication of National Nutritional Strategy Paper of Indonesia for the International Conference on Nutrition (ICN) in 2013. Hopefully, this report will contribute to Indonesia achieving the objectives of human development agenda.

Director General of Food Security Agency
Ministry of Agriculture



Achmad Suryana

Acknowledgments

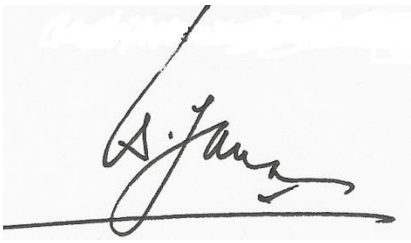
The preparation of this National Nutrition Strategy Paper of Indonesia was build on analysis, presentations and contribution from the two focus group discussions (FGDs) and coordination meetings among participants came from food and nutrition related sectors. The FGDs and coordination meetings were initiated and conducted by Food Security Agency (Badan Ketahanan Pangan) in Ministry of Agriculture (MoA), and involving all parties responsible and related to food and nutrition improvement tasks in Indonesia. Among the parties contribute in developing this paper are staffs and experts of Ministry of Planning/National Planning Agency (Bappenas), Ministry of Agriculture (MoA), Ministry of Health (MoH), Bureau of Statistics (CBS), National Agency of Drugs and Food Control (NADFC) and academia from universities and research center.

With the very limited time and tight schedule to prepare this paper, it was difficult to gather experts in a series of meetings. However with their very high integrity and spirit, finally this paper accomplished timely. For those hard work and dedication, I would like to extend my gratitude to all those who have contributed to the preparation of this Country Report. I do expect that the report will contribute to Indonesia in achieving the objectives of human development and a more prosperous society in the future, particularly in strengthening food and nutrition security for all of the indvidu in the country.

It is a great pleasure to have suggestions and comments from all of the stakeholders to improve this strategy paper.

Jakarta, 27 December 2013

Director General of Food Security Agency
Ministry of Agriculture



Achmad Suryana

Summary

In response to the emerging food insecurity and malnutrition problems faced by many countries prior 90s, a World Declaration and Plan of Action for Nutrition has been declared in the 1992 International Conference on Nutrition (ICN). Since the 1992 ICN, the progress in establishing food security, reducing hunger and malnutrition has been made, but in general still reached unexpected result. Global and national economic crisis in 1997 and 2008 prolong the severity of hunger and malnutrition. With this circumtances Indonesia has demonstrated effort and hard work to alleviate hunger and reduce malnutrition. The Indonesian Government has responsed to the recommendation of the ICN 1992 by taking the development of food security and nutrition as a priority in various policy documents.

In the 90s, agriculture, food and nutrition are among the top program priority of Indonesian government. In the new millenium, food and nutrition security policy also become part of National Long-Term Development Plan (RPJPN 2005-2025) promulgated through Law 17/2007. In the implementation plan, the government develop action plan to accelerate better food and nutrition security achievement up to household and individual level. The National and Regional Plan of Action to strengthen food and nutrition security have been developed. As part of international commitment on High-Level Panel of Eminent Persons on the Post-2015 Development Agenda, Indonesian government has issued several policy such as Public Policy of Food Security (KUKP), the National Plan of Action and the Regional Plan of Action for Food and Nutrition (RAN/RAD-PG), National Movement Nutrition Awareness and the Global Scaling Up Nutrition (SUN) Movement, the First 1,000 Day of Life Movement which was directed by Presidential Regulation No 42/2013, and even change the Food Law # 7/1996 to new Food Law # 18/2012 to not only strengthennational food security, but also to achieve food self suficiency and food sovereignty to achieve better food and nutrition security at national, community, household and individual level.

Progress have been achieved on food security and agriculture sector, particularly in terms of increasing food availability as noticed by self sufficiency on staple food, and increased calorie per caput availability exceeding the Recommended Dietary Allowances (RDA) for energy. Health and nutrition sector also demonstrated good improvement. For two decades, nutritional status tends to be improved, as indicated by decreasing of the prevalence of malnutrition among children under five. The improvement was occured not only in terms of alleviating macro nutrient deficiency problems, but also in decreasing micro nutrient deficiencies, particularly vitamin A deficiencies (VAD), iron deficiency anaemia (IDA), and Iodine Deficiency Disorders (IDD). Integrated and complementary strategies to combat macro and micro-nutrient deficiencies were implemented in some extent although still requiring a stronger effort to accelerate the reduction of malnutrition problems. Complementary strategies that are implemented at present consisted of food diversification program through balance diet approach including improving of food safety; providing supplementation for certain target groups, particularly to control VAD and IDA; and food fortification for certain food vehicle. At present salt iodization and iron fortification of wheat flour have been

mandated, while vitamin A fortification in palm oil will follows, while iron fortification on rice for the poor (RASKIN) is under the pilot project. In complementary with those action, various regulations regarding food security, health, nutrition and food safety have been issued to enhance and accelerate improvement on food security, food safety and nutrition status of the community.
Despites of its significant improvent in the last two decades, Indonesia still facing challanges in food and nutrtion security which are in general covering the following problems: 1) import dependency of some food commodities (particularly soybean, sugar, dairy products, meat); 2) low quality of diet among middle-lower income people as indicated by low food diversity score or disreable dietary score (DDP) due to low intake of vegetables, fruits, animal food and soybeans among the general people which is sucpected to be related to VAD, IDA, IDD and other micronutrient deficiencies; 3) presence of double burden malnutrition problems, namely under nutrition (particularly stunted) and over nutrition (obesity) at the same time, and even it can be occured in the same household or even at same individual in the long run; 4) transient and in fewer cases chronic food insecurity are remained problems in particular remote areas due to poor economic access, food distribution barier and/or food production failure caused by weather anomaly; and 5) relativele un-integrated and fragmented policy and programs in food and nutrition security and poverty alleviation strategy, although big efforts have been done to bring them integratedly.

Since food insecurity and malnutrition is a multidimension and multi sectoral problems, comprehensive multisector solutions are needed. Coordination and cooperation between food, agriculture, health and other sector policies, and stakeholders are needed to improve national and global nutrition. Although these are not a brand new approach, however some countries have reach a big success in combanting malnutrition through and integrated-multisectoral and multidisciplinnary aproach.

Summary Table

General Indicators	*Current*	*Sources / Year[i]*	*Baseline*	*Sources / Year[i]*
Total population (million people)	244.2	Statistics Indonesia/ 2012	186.04	Statistics Indonesia/1992
National birth rate	20.4	Indonesia Demographic and Health Survey (IDHS)/2012	23.3	Indonesia Demographic and Health Survey (IDHS)/1994
Total number of live births		NA		NA
National life expectancy (males, females)	70.3	Statistics Indonesia/ 2012	62.34	Statistics Indonesia/1992
Human Development Index	72.77	Statistics Indonesia/ 2011	67.70	Statistics Indonesia/1996
Population below poverty line - %	11.66	Statistics Indonesia/ 2012	17.70	Statistics Indonesia/1996
Under-five mortality rate (per 1,000 live births)	57.18	Statistics Indonesia/ 2007	92.80	Statistics Indonesia/1994
Infant mortality rate (per 1,000 live births)	26.00	Statistics Indonesia/2010	66.40	Statistics Indonesia/1994
Maternal mortality ratio /100 000 live births (reported)	359	IDHS/2012	390	IDHS/1994
Primary school net enrolment or attendance ratio	92.49	Statistics Indonesia/ 2012	92.11	Statistics Indonesia/1994
Primary school net enrolment -ratio of males /females	100.18	Statistics Indonesia/ 2012	100.12	Statistics Indonesia/1994
Access to improved drinking water in rural areas - %	44.06	Statistics Indonesia/ 2012	31.47	Statistics Indonesia/1993
Access to improved sanitation in rural areas - %	42.73	Statistics Indonesia/ 2012	10.98	Statistics Indonesia/1993
Food availability				
Arable land area – %	13.30	Statistics Indonesia/ 2011	10.53	Statistics Indonesia/1992
Average dietary energy requirement – Kcal	2,200	National Food and Nutrition Forum/ 2004	2,500	National Food and Nutrition Forum/1998
Dietary energy supply (DES) - Kcal	3,795	Food Balance Sheet/2011	2,968	Food Balance Sheet/1992
Total protein share in DES - %	10.4	Food Balance Sheet/2011	9.1	Food Balance Sheet/1992
Fat share in DES - %	23.2	Food Balance Sheet/2011	20.4	Food Balance Sheet/1992

Food consumption	*Current*	*Sources / Year[i]*	*Baseline*	*Sources /Year[i]*
Average daily consumption of calories per person - Kcal	1,853	National Socio Economic Survey/ 2012	1,879	National Socio Economic Survey/ 1993
Calories from protein - %	11.47	National Socio Economic Survey/ 2012	9.69	National Socio Economic Survey/ 1993
Calories from fat - %	-		-	
Average daily fruit consumption (excluding wine) (g)	69.1	National Socio Economic Survey/ 2012	170.1*)	National Socio Economic Survey/ 1993 *)*total consumption of fruit & vegetables*
Average daily vegetable consumption (g)	130	National Socio Economic Survey/ 2012		
Nutritional Anthropometry (WHO Child Growth Standards)				
Prevalence of stunting in children < 5 years of age	35.6	Basic Health Research-MoH/2010	36.8	Basic Health Research-MoH/2007
Prevalence of wasting in children < 5 years of age	13.3	Basic Health Research-MoH/2010	15.5	Basic Health Research-MoH/2002
Prevalence of underweight children < 5 years of age	17.9	Basic Health Research-MoH/2010	31.0	Basic Health Research-MoH/1989
Prevalence of obesity >30 BMI	11.7	Basic Health Research-MoH/2010	3.9	Basic Health Research-MoH/2002
Women (15-49 years) with a BMI < 18.5 kg/m²	NA		NA	
MUAC Women (15-45 years) < 23,5 cm *	13.6	Basic Health Research-MoH/2007	19.7	Household Health Survey /2004
Infant and young child feeding by age				
Exclusive breastfeeding under 6 months %	41.5	Indonesia demographic and health survey-MoH/ 2012	42.4	Indonesia demographic and health survey-MoH/ 1997
Breastfeeding with complimentary foods (6-9 months)	79.2	Indonesia demographic and health survey-MoH/ 2012	NA	
Micronutrients				
Households consuming adequately iodized salt (> 15ppm) -%	86.0	Basic Health Research-MoH/2007	58.1	Basic Health Research-MoH/1997
Vitamin A supplementation coverage rate for children aged 6-59 months-%	82.8	MoH/2012	60.2	MoH/1995
Percentage of children age 6-59 months with anemia	47.0	Household Health Survey/2001	40.5	Household Health Survey/1995
Percentage of women age 15-49 with anemia	26.4	Household Health Survey/2001	39.5	Household Health Survey/1995

Acronyms

BAPPENAS	Badan Perencanaan Pembangunan Nasional (National Planning Agency)
BPOM	Badan Pengawasan Obat dan Makanan (Food and Drug administration)
BMI	Body Mass Index
BPS	Badan Pusat Statistik (Bureau of Statistics)
DES	Dietary Energy Supply
DDP	Desirable Dietary Pattern
FBS	Food Balance Sheet
FSVA	Food Security and Vulnerability Atlas
GER	Gross Enrolment Ratio
HDI	Human Development Index
ICN	International Conference on Nutrition
IDA	Iron Deficiency Anemia
IDD	Iodine Deficiency Disorders
IDHS	Indonesia Demographic Health Survey
IMR	Infant Mortality Ratio
Jamkesmas	Jaminan kesehatan masyarakat (community health security)
Jampersal	*Jaminan Persalinan* (childbirth security)
K1	Kunjungan kehamilan ke-1 (1st pregnancy visit)
K4	Kunjungan kehamilan ke-4 (4th pregnancy visit)
KB	Keluarga Berencana (family planning)
MDGs	Millenium Development Goals
MMR	Maternal Mortality Ratio
MNP	Micro Nutrient Powder
MoA	Ministry of Agriculture
MoH	Ministry of Health
NER	Net Enrolment Ratio
PPP(s)	Public Private Partnership(s)
PMT-AS	Pemberian Makanan Tambahan Anak Sekolah (Supplementary FoodProgram for School Children)
RDA	Recommended Dietary Allowances
RISKESDAS	Riset Kesehatan Dasar (Basic Health Research)
RPJMN	Rencana Pembangunan Jangka Menengah Nasional (National Long-Term Development)
SDKI	Survei Demografi dan Kesehatan Indonesia (Indonesia Demographic and Health Survey)
SUSENAS	Survey Sosial ekonomi Nasional (National Socio-economic Survey)
WFP	World Food Programme
WHO	World Health Organization
WNPG	Widyakarya Nasional Pangan dan Gizi (National Food and Nutrition Forum)

1. Country context

1.1. Geographic information

Indonesia is the largest archipelagic country in the world located in Southeast Asia. Geographically its lays between two continents, Asia and Australia as well as between the Indian and Pacific Ocean. The country consisted of 17,504 islands including those in the estuary and the river, and river deltas. This strategic position has a very extremely influence on the cultural, social, political, and economic. This fact makes Indonesia has a diversity of cultures and customs with characteristics that differ from each other.

In 2012, Indonesia administratively is divided into 33 provinces, 497 districts (399 districts and 98 municipalities), 6,879 sub districts and 79,702 villages. And total land area is 1,910,931 square kilometers. Lying along the equator, Indonesia's climate tends to be relatively even year-round. The country experiences two seasons-a wet season and a dry season-with no extremes of summer or winter. For most of Indonesia, the wet season falls between October and April with the dry season between May and September. To some degree, these patterns can be linked to the geographical resources themselves, with abundant shoreline, generally calm seas, and steady winds favoring the use of sailing vessels, and fertile valleys and plains-at least in the Greater Sunda Islands-permitting irrigated rice farming. The heavily forested, mountainous interior hinders overland communication by road or river, but fosters slash-and-burn agriculture.

1.2. Socio economic developments

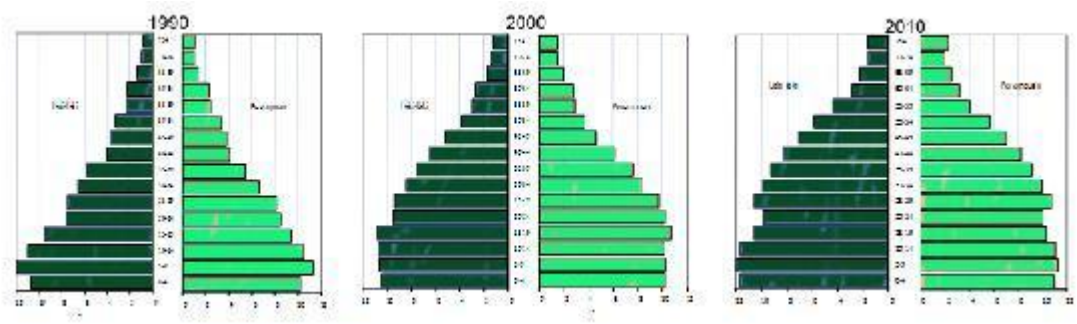
1.2.1 Demographic Situation

In 2011, the population of Indonesia is 243.74 million people, consisted of 122.477 million males and 121.263 million females, [1)] having more than doubled in comparison with the population recorded in 1971. The annual population growth rate has decreased, (from 1.97 percent during the 1980-1990 period to 1.40 percent in the period 1990-2000, and to 1.49 percent in the period 2000-2010), but the total population of Indonesia is estimated will reach 247.6 million[2)] in 2015. Approximately 60.2 percent will living in the island of Java, which comprises only 7 percent of the total area of Indonesia. In addition, no less than 80 percent of national industry is concentrated in Java. In 1970, 15% of Indonesians lived in cities compared to over 30% today, and this increases pressure on the urban environment. Based on provincial level, population number has increased with various population growth rate. The lowest population growth rate 0.37% was in Central Java and the highest population growth rate 5.39% was in Papua.

Based on population distribution by sex and age group we can obtain a description of the population pyramid of Indonesia since the implementation of the Population Census 1961 to the Population Census in 2010. Indonesia's population pyramid is presented in Graph 1.1.

1) Population projection, BPS-Statistic Indonesia 2011
2) Indonesian Population Projection of 2005-2025

Graph 1.1.
Pyramid of Indonesia Population, 1990 – 2010
(in million)



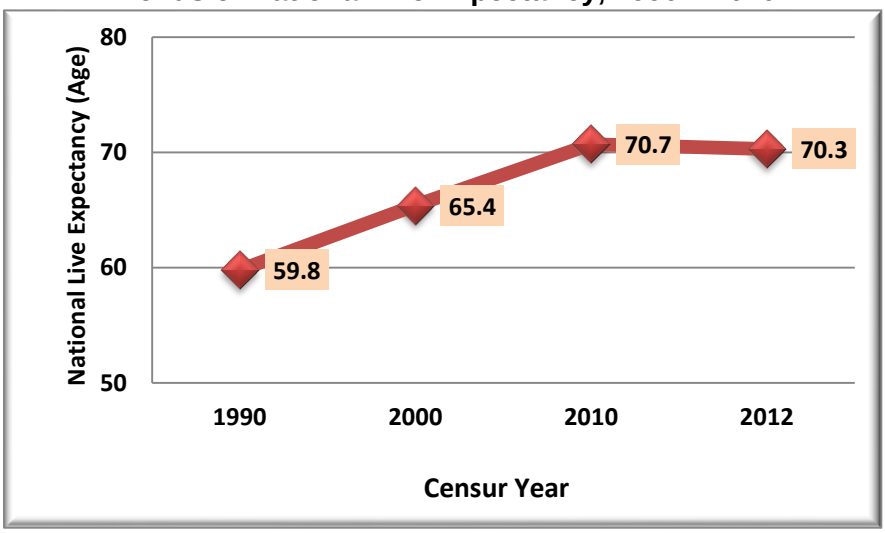
Source: BPS-Statistics Indonesia

Pyramid Year 1990 show that number of births is low and number of elderly is relatively high. This shows the increasing life expectancy and the proportion of people who were born to live to old age is increasing.

Essential indicators related to demographic situation are dependency ratio and life expectancy. The higher dependency ratio, the higher the number of nonproductive population was covered by population of productive age. Composition of Indonesia's population by age group are young population (0-14 years) of 28.87%, productive age (15-64 years) of 66.05%,old age and elderly (≥ 65 years) of 5.04%. Thus, number of dependency ratio of Indonesia's population in 2010 amounted to 51.33%. This means that 100 people in Indonesia who were still productive will bear 51 people who have not/no longer productive.

Indonesia people life expectancy has increased from 59,8 year in 1990 to 70.7 year in 2010. Life expectancy is in general represent the progress in human development and social welfare. The Graph 1.2 indicates that a relatively sharp improvement has been achieved

Graph 1.2.
Trends of National Life Expectancy, 1990 – 2010



Source: BPS-Statistics Indonesia

1.2.2 Economic Situation.

General situation of Indonesian economic within period of 1990 – 2010 is presented at table 1.1. the Gross Economic Product (GDP) has increased from US$ 1,449 in 1990 to US$ 4,293 in 2010 or 3.3 % growth anually. Agriculture share in GDP however has decrease from 19,4 % to 15,53% due to Table 1.1 with the increase of Industry'role in absorbing manpower, share of agricultural employment decrease significantly in last two decades.

Table 1.1 Indonesian Economic Indicators

Economic Context	1990	2010
GDP per caput, PPP (USD)	1,449	4,293
Agriculture in GDP (%)	19.4	15.3
Agriculture share in employment (%)	55.9	38.4
Poverty (%)	15.1	13.3

Poverty is also a major obstacle in fulfilling the needs of adequate food both in quantity and quality. The phenomenon of poor nutrition and less often associated with poor economic conditions if it refers to the fact that compliance with the limitations of food can lead to malnutrition.

Poverty reduction efforts in Indonesia have shown meaningful progress, which has been in accordance with the MDGs as was demonstrated by the reduced proportion of people living under the national poverty line, i.e. from 15.10 percent (1990) to 12.49 percent (2011) even when the Poverty Depth Index went down from 2.70 to 2.08 during the same time period. However number of people living under the poverty lines is appoximately 30 millions. The rate of GDP growth per worker strengthened from 3.52 percent (1990) to 5.04 percent (2011). Additionally, a reduction was observed in the proportion of people suffering hunger between 1989 and 2010 as the prevalence of under-five children with low weight went down from 31 percent to 17.9 percent.

Welfare level of the population below the poverty line experienced an improvement. This was shown by a decrease in the national poverty gap ratio (incidence x depth of poverty) that was at 2.08 percent in 2011 and went down to 1.88 percent in 2012 (Table 1.2). However, the poverty level in rural areas continues to be higher compared with urban areas and continues to require strengthened rural development. In September 2012, Indonesia's poverty level in rural areas was 14.70 percent and in urban settings 8.60 percent.

Table 1.2 Number of People Below Poverty Line, 1996-2012

Year	Number (million)		% of Total Population
	Total	Rural	
1996	34.01	24.59	17.70
1999	47.97	32.33	23.43
2002	38.40	25.10	18.20
2005	35.10	22.70	15.97
2008	34.96	22.19	15.42
2011	30.02	18.97	12.49
2012	29.13	18.48	11.66

Source : Statistic Indonesia

2. Comparison of the current food and nutrition situation

2.1. Food Security

Access to food is the most basic human right, hence a solid national policy on food security is required. Food security is one of government priorities, through agriculture, forestry and fishery revitalization, the government has been consistently increasing food availability, after a longterm jurney to achieve rice self sufficiency in 1984. Indonesia was able to regain self sufficiency in 2008 and was able to escape from global crisis in that year. The concept of food security implies adequate availability and stability in the supply of food and, more importantly, access to food and utilization. Therefore, the discussion of food and nutrition security situation will be described based on three dimension of food security: availability, accessibility, and utilization.

2.1.1 . Food Availability

One of the dimensions of food security is food availability to sufficient quantities of food in appropriate quality, and supplied through domestic production or imports. Availability of food is assessed at the macro level, generally at the level of the nation state, but food security has a meaning only at the household level - in fact, at the level of the individual members of the household. At the same time food availability at the national level has a limited, but important, role to play in ensuring food security among the households. Food production is one aspect to ensure food availability, which is can be seen in some indicators about arable land area, average dietary energy supply, protein and fat share in Indonesia.

Table 2.1 Comparison of the current food availability situation

Food availability	Current	Sources/Year	Baseline	Sources/Year
Arable land area (%)	13.30	Statistics Indonesia/2011	10.53	Statistics Indonesia/1992
Average dietary energy requirement (kcal)	2,200	WNPG*/2008	2,500	WNPG*/1998
Dietary energy supply (DES) - Kcal	3,795	Food Balance Sheet/2011	2,968	Food Balance Sheet/1992
Total protein share in DES - %	10.4	Food Balance Sheet/2011	9.1	Food Balance Sheet/1992
Fat share in DES - %	23.2	Food Balance Sheet/2011	20.4	Food Balance Sheet/1992

*WNPG : Widya karya Pangan Gizi is a forum, conducted every 5 years, among others is to formulate RDA

The agricultural sector is the starting point for finding sustainable solutions to overcome the current food crisis. This relates to agricultural productivity, as well as, to policy frameworks for combating hunger and poverty. Related with it, one aspect for combating and alleviating hunger need sustainable food production to ensure food availability.

a. Agriculture Production

The production of main staple-food (paddy, maize, and soybean) will be determined by two main indicator, i.e. harvested area and productivity. During the period of 1993-2013, the paddy production increased by 1.88%/year w/c is mainly determined by the increasing of harvested area (1.05%/year), meanwhile the productivity just increased by 0.83%/year (Table 2.2.). For the last five years (2009-2013), trend of paddy production achieved at a higher rate (1.89%/year) compared with the period of 1993-2008 (1.69%/year). This indicated that the strategy, programme, and related policies to increase paddy production was appropriate enough to give incentive to paddy's farmers.

Table. 2.2.Trends of Harvested Area, Productivity, and Production of Paddy, 1993 – 2013

Year	Harvested (ha)	Productivity (quintal/ha)	Production (Tons)
1993	10,993,920	43.78	48,129,321
1994	10,717,734	43.48	46,598,380
1995	11,420,680	43.52	49,697,444
1996	11,550,045	44.2	51,048,899
1997	11,126,396	44.34	49,339,086
1998	11,730,325	41.97	49,236,692
1999	11,963,204	42.52	50,866,387
2000	11,793,475	44.01	51,898,852
2001	11,499,997	43.88	50,460,782
2002	11,521,166	44.69	51,489,694
2003	11,488,034	45.38	52,137,604
2004	11,922,974	45.36	54,088,468

Con't Table 2.2

Year	Harvested (ha)	Productivity (quintal/ha)	Production (Tons)
2005	11,839,060	45.74	54,151,097
2006	11,786,430	46.2	54,454,937
2007	12,147,637	47.05	57,157,435
2008	12,327,425	48.94	60,325,925
2009	12,883,576	49.99	64,398,890
2010	13,253,450	50.15	66,469,394
2011	13,203,643	49.8	65,756,904
2012	13,445,524	51.36	69,056,126
2013*	13,451,211	51.5	69,271,053
Trends of Growth (%)	1.05	0.83	1.88

Source: Official Statistics News, Statistics Indonesia
Note: *estimated figures

During the period of 1999-2013, maize production has been increased approximately 6.0%/year, meanwhile the production of soybean decrease around 2.1%/year. The achievement of maize production mainly be determined by the improvement of productivity (4.7%/year), for the soybean due to decreasing of harvested area of 3.6%/year. The productivity of maize increased from 26.63 quintal/ha (1999) to 48.42 quintal/ha (2012) or 4.7%/year, and the harvested area only increased 1.1%/ year (Table 2.3). meanwhile, the productivity of soybean, increased 1.5%/year, and the harvested areas has significant decreased of 3.6%/year (Table 2.4).

Table 2.3 Trends of Harvested Area, Productivity, and Production of Maize, 1999 – 2013

Year	Harvested (ha)	Productivity (quintal/ha)	Production (Tons)
1999	3,456,357	26.63	9,204,036
2000	3,500,318	27.65	9,676,899
2001	3,285,866	28.45	9,347,192
2002	3,126,833	30.88	9,654,105
2003	3,358,511	32.41	10,886,442
2004	3,356,914	33.44	11,225,243
2005	3,625,987	34.54	12,523,894
2006	3,345,805	34.7	11,609,463
2007	3,630,324	36.6	13,287,527
2008	4,001,724	40.78	16,317,252
2009	4,160,659	42.37	17,629,748
2010	4,131,676	44.36	18,327,636
2011	3,864,692	45.65	17,643,250
2012	3,890,974	48.42	18,838,529
2013*	3,456,357	26.63	9,204,036
Trends of Growth (%)	1.1	4.7	6.0

Source : Official Statistics News, Statistics Indonesia
Note : *estimated figures

The phenomenon of the main three staple food commodities, indicating the following indications, i.e.: (a) the scarcity and competition of land usage among the three commodity, with the consequences of important improvement of agricultural production capacity,

especially in the outer of Java; (b) bias policies support for the paddy development compared to secondary crop (especially for soybean); (c) the significant improvement of maize's productivity due to application of hybrid-corn variety with high potential yield, in addition to the contribution of private sector in the development of maize production in the country; and (d) the decreasing trend of production and harvested area of soybean indicating 'policies failure by law', in addition the complexity of on-farm development of the respective commodity.

Table 2.4 Trends of Harvested Area, Productivity, and Production of Soybeans, 1999 – 2013

Year	Harvested (ha)	Productivity (quintal/ha)	Production (Tons)
1999	1151079	12.01	1382848
2000	824484	12.34	1017634
2001	678848	12.18	826932
2002	544522	12.36	673056
2003	526796	12.75	671600
2004	565155	12.8	723483
2005	621541	13.01	808353
2006	580534	12.88	747611
2007	459116	12.91	592534
2008	590956	13.13	775710
2009	722791	13.48	974512
2010	660823	13.73	907031
2011	622254	13.68	851286
2012	567624	14.85	843153
2013*	571564	14.82	847157
Trends of Growth (%)	-3.6	1.5	-2.1

Source : Official Statistics News, Statistics Indonesia
Note : *estimated figures

b. Dietary Energy Supply

At the macro level, by the comparison of energy and protein availability with respect to energy and protein consumption, the existence of food security in Indonesia indicating at sufficiency level (Table 2.5). For instance, the energy availability in 1993 is 2,899 Kcal/caput (147.0%) wrt its availability recommendation of 2,200 Kcal/caput, even in 2011 its magnitude is more higher, ie 172.5%. In the case of protein, its availability in 1993 and 2011 are 115.8% and 172.8% wrt its recommended level, respectively. Meanwhile the consumption level of energy tend to be fluctuated, and most of the years are below its consumption recommendation of 2,000 Kcal/caput. In 1993, the consumption level is 103.3%, but in 2011 is 97.6% its consumption recommendation of 2,000 Kcal/caput. In the case of protein consumption, tend to be increasing, and higher than its recommended consumption of 52 gram/caput, except in 1993 and 1999. The existence of energy consumption below its recommendation mostly due to accessibility of food or purchasing power of people, instead of its availability.

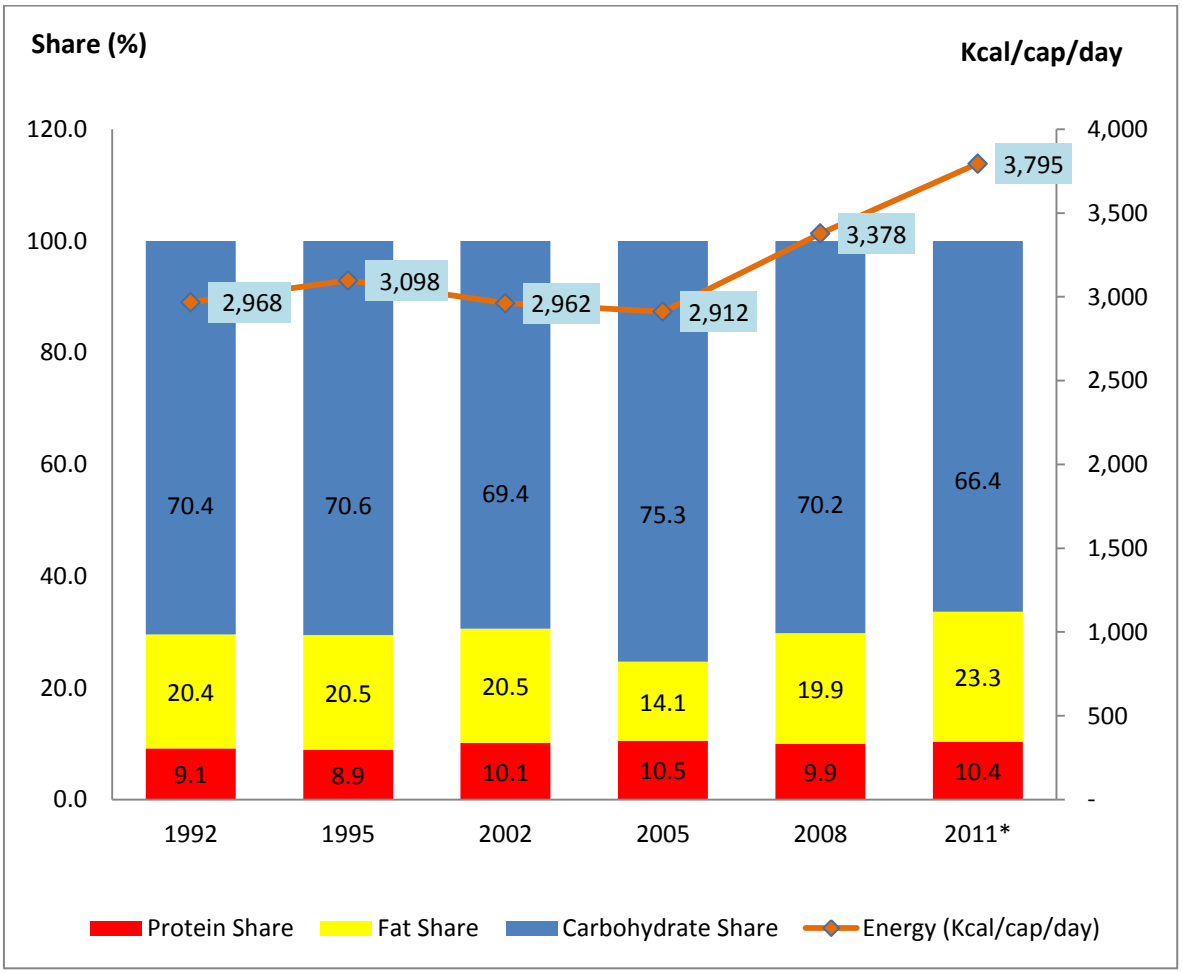
Table 2.5 Availability and Food Consumption Situation of Indonesia 1993 - 2011

Year	Availability [1)]		Consumption [2)]	
	Energy (Kcal/caput)	Protein (Gram/caput)	Energy (Kcal/caput)	Protein (Gram/caput)
1993	2,899	66.0	2,065	45.5
1996	3,234	82.1	2,020	54.5
1999	3,074	80.2	1,851	48.7
2002	2,962	74.9	1,986	54.1
2005	2,912	76.8	1,997	55.2
2008	3,378	83.9	2,038	57.5
2011	3,795	98.5	1,952	56.3

Availability Recommended : Energy (2,200 Kcal/caput), Protein (57 gram/caput)
Consumption Recommended : Energy (2,000 Kcal/caput), Protein (52 gram/caput)
Recommended from National Food and Nutrition Forum, 2004
Source :
[1)] Food Balance Sheet, 1993 - 2011
[2)] National Socio Economic Survey, 1993-2011

Dietary energy requirement is needed in order to measure sufficiency of food availability. In Indonesia, average dietary energy requirement agreed through food and nutrition national meetings (Widyakarya Nasional Pangan dan Gizi), and every five years updated. In 1998, average dietary energy requirement is 2500 kcal/cap/day, and ten-years later the average dietary energy requirement be 2200 kcal/cap/day. Trend of dietary energy supply in Indonesia is increased from 2002 to 2011, which can be seen at **Graph 2.1**. Dietary energy supply in Indonesia is more than dietary energy supply sufficiency from 1992-2011.

Graph. 2.1 Trend of Dietary Energy Supply, and Share of Protein, Fat, & Carbohydrate Supply Indonesia 1992-2011



Source : Food Balance Sheet, 1992-2011

c. Food vulnerability

The complexity of poverty requires multisectoral, well integrated and coordinated intervention. Indirectly, poverty as a factor will be influence food insecurity. To analyze and classify food security and vulnerability in the country, during 2003-2005 and 2009, The National Food Security Council, provincial and district Food Security Offices, in collaboration with the United Nations World Food Programme (WFP), made substantial efforts to produce a national Food Insecurity Atlas, which renamed Food Security and Vulnerability Atlas (FSVA) (Figure 2.1).

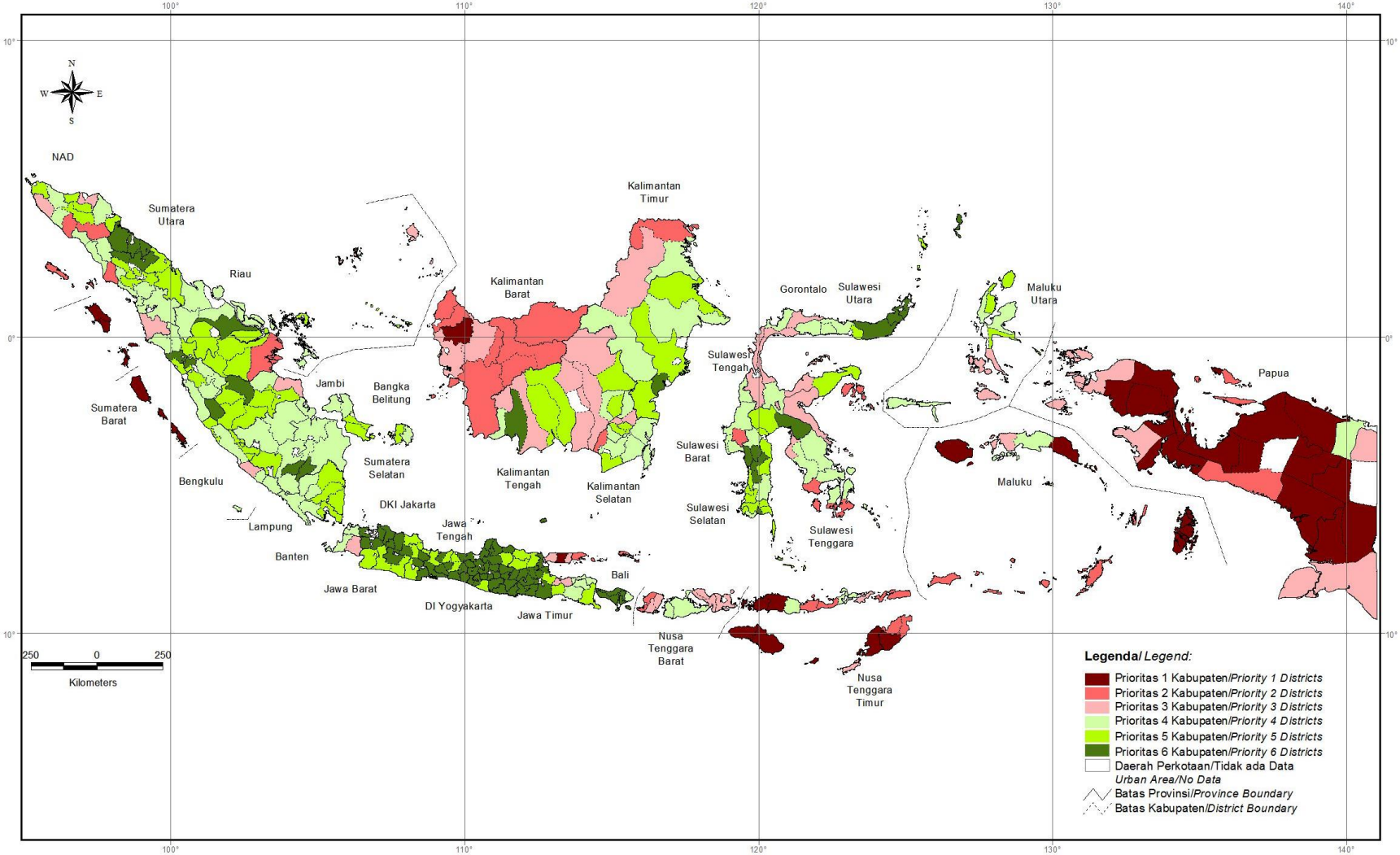


Figure 2.1. Vulnerability to Food insecurity Map of Indonesia, 2009
Source: Food Security Agency, MoA and WFP

Analyzed 13 indicators related to food security based on officially issued data 2004-2007, and composite 9 of them (Figure 2.1), findings some conditions about food security in Table 2.6 below:

Table 2.6 Key Findings of FSVA 2009 vsFIA 2005

Food Availability	• Agricultural output is growing at a high rate (about 3.5% per year during 2004-2007) and reached 4.8% in 2008. Rice and maize production increased, while production of cassava and sweet potatoes was relatively stable and production of soybean and groundnuts reduced. In general, the majority of Indonesian territory is food self-sufficient in cereal production, and food availability at the national level is adequate. • However, districts in Papua province and some districts in Riau province, Kepulauan riau, Jambi, Kalimtan tengah, parts of Maluku and Maluku Utara provinces were cereal is deficient.
Food Access	• Limited access to food for the poor as a result of combination of poverty, lack of stable employment, lower irregular cash income and limited purchasing power remained a greater challenge. In 2008, 15,42percent of the population lived below the national poverty line (purchasing power parity US$ 1.55 per day). Almost 64 percent of the poor lived in rural areas, and more than 57 percent of the total lived on Java Island. • Since 2003, 26 province have been able to reduce the poverty rate but five provinces have not. • In 2007, poverty was concentrated in six provinces (Papua, Papua Barat, Maluku, NTT, Gorontalo and NAD). Out of 33 province, 16 provinces had a poverty higher than the national average, with Papua province having the highest proportion of poor people (40.78%). • More pronounced differences exist between district. Out of 346 districts had poverty rates higher than the national average. Among them, 65 districts had more than 305 of people living below the national poverty line. • The open unemployment rate in 2007, decreased by nearly 2% from 2003. Its reduction has not been commensurate with the economic growth in the country and varied by regions. • More than 12% of all Indonesian villages did not have access to roads connected by four wheeled vehicles. • Nearly 10% of households in Indonesia did not have access to electricity. Access to electricity was particularly limited (≥ 30%) in four provinces (NTT, Papua, Papua Barat, and Sulawesi Barat).

Con't Table 2.6

Food Utilization and the Nutritional situation	• In 2007, the average daily energy intake was 2050 kcal and the protein intake was 56.25 grams, both surpassed the national Recommended Daily Allowance (RDA). These had increased by 3.3% since 2002. However, the lowest three expenditure classes consumed only 1817 kcal/cap/day or less, and their diet remained quantitatively inadequate and qualitatively imbalanced. • Overall, 94% of households had access to the nearest health facilities located within five km, which significantly improved during the last five years. • On average, 21.08% of households did not have access to improved drinking water. The poorest access was in Kalimantan Barat, Papua Barat, Lampung and Kalimantan Tengah provinces. • Overall, in 2007 the national female illiteracy rate was 12.89%. The highest illiteracy rate was in Papua (32%), NTB (27%) and Bali (21%) provinces. At the district level, 66 out of 346 districts had an illiteracy rate of 205 or more. • In 2007, the national rate of underweight (mixed chronic and acute malnutrition) was 18.4% which met the MDG goal but still was a poor level of public health significance. Huge disparities between regions remained with 19 provinces having underweight rates higher than the national rate. By district, 45 out of 346 districts had a very high prevalence of underweight (≥ 30%). Higher underweight was found in NTT, Maluku, Kalimantan Selatan, NAD, Sulawesi Barat and Gorontalo provinces. • The national prevalence of stunting (chronic malnutrition) was 36.8%, ranked at high level of public health significance. In total, 12 provinces had a very high prevalence (≥ 40%), and another 17 provinces had a high prevalence (30-39%). At the district level, 167 out of 346 districts had a very high prevalence of stunting. Higher stunting was found in NTT, Maluku, Sumatra Selatan, NAD, Sulawesi Barat and NTB provinces. In summary, malnutrition was significantly higher in the eastern part of the country. • The average life expectancy was 68 years in 2007. Eight out of 33 provinces had the life expectancy of 70 or more years.

The composite food security was used to analyze regions of higher vulnerability required higher priority, by ranking and mapping 346 districts. Among them, 100 districts are ranked as higher priority:30 of priority I, 30 of priority 2 and 40 of priority 3, with total estimated population of 25 million people. Vulnerability to food insecurity is mainly attributed to high poverty, no access to electricity, high underweight among under-five children, no access by four-wheeled vehicles and no clean water.

In the context of economics situation, in addition to main indicator of economic development, poverty, and food insecurity, the important once is the achievement of main commodity development, i.e. paddy, maize, and soybean. The successful development of

the respective commodity or agricultural development in general will determine the food security and the poverty in the country.

2.1.2 Accessibility

The quantity of food needed by an individual will reach a saturation point, while the need for non-food items has no limits. Therefore, expenditure for food by household can be used as an indicator of accessibility on food or prosperity. In general, the larger of the food expenditure (as a percentage of total income), wii be the lower of the prosperity of the household. Or it can be expressed another way, the lower of the percentage of the income spent on food, will be the higher of the accessibility of household on food or the more prosperous of the household.

Food accessibility will be determined by some selected consumption and economics indicator, i.e. food expenditure share, income distribution (gini ratio), daily consumption of energy and protein. Gini ratio of income distribution increase consistently from 0.31 (1999) to 0.41 in 2012. In September 2012, the proportion of income owned by 20% of population with highest income reach 48.94%, for 40% of population moderate income 34.18%, and for 40% of population with lowest income just owned 16.88% of total income (Table 2.7). This kind of income distribution will seriously affect the food accessibility, especially for the lowest income group. Therefore the successss implementation of inclusive development and growth (pro poor, pro job, pro growth, pro environment), that improve equality of income distribution will give substantial improvement the food accessibility of the population.

During the period of 1999-2012, the food expenditure share decreased from 62.94% to 47.71%, and the energy consumption relatively stable, w/c experience slight improvement from 1849 to 1865 kcal/cap/day, and the protein consumption increased from 48.67 to 53 gram/cap/day (Table 2.7). the respective information give the following indication as follows: (a) the improvement of accessibility on food and the welfare status of the people; (b) the food expenditure share of 47.71% (below the threshold level of 60.0%) and the calorie consumption of 1865 k.cal/cap/day (higher than 1 600 k.cal/cap/day, or equal to 80% of normal requirement of 2000 kcal/cap/day), in general indicating the non-existent of food insecurity household; (c) the protein consumption of 53.14 gram/cap/day in 2012, slightly lower than the standard of 55.0 gram/cap/day; and (d) the non-food expenditure increased consistently from 37.06% (1999) to 52.29% in 2012, especially for housing and household facility, goods and services, and clothing, footwear, and headgear as the main component of non-food expenditure. All of those indicating the improvement of the purchasing power or food accessibility as well as the welfare of the people in general during the period of 1999-2012.

Table 2.7 Selected Consumption Indicators, Indonesia 1999, 2002-2012

Selected Indicators	1999	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Average per Caput Income												
- Percentage household expenditure for food	62.94	58.47	56.89	54.59	51.37	53.01	49.24	50.17	50.62	51.43	49.45	51.08
- Percentage household expenditure for non food	37.06	41.53	43.11	45.42	48.63	46.99	50.76	49.83	49.38	48.57	50.55	48.92
Income Distribution												
- 40 % of population with lowest income	21.66	20.92	20.57	20.80	18.81	19.75	19.10	19.56	21.22*	18.05*	16.85*	16.98*
- 40 % of population with moderate income	37.77	36.89	37.10	37.13	36.40	38.10	36.11	35.67	37.54*	36.48*	34.73*	34.41*
- 20 % of population with highest income	40.57	42.19	42.33	42.07	44.78	42.15	44.79	44.77	41.24*	45.47*	48.42*	48.61*
Gini Index	0.31	0.33	0.32	0.32	0.36	0.33	0.36	0.35	0.37*	0.38*	0.41*	0.41*
Average of Daily per Caput Energi Consumption												
- without prepared food	1 678.58	1 789.04	1 777.58	1 766.97	1 774.57	1 709.91	1 768.87	1 748.32	1 649.17	1 651.77	1 647.67	1 587.09
- with prepared food	1 849.36	1 987.13	1 989.89	1 986.06	2 007.65	1 926.74	2 014.91	2 038.17	1 927.63	1 925.61	1 952.01	1 852.64
Average of Daily per Caput Protein Consumption												
- without prepared food	44.05	49.11	49.53	48.65	50.15	47.82	50.33	49.14	46.25	46.99	47.25	45.21
- with prepared food	48.67	54.45	55.37	54.66	56.59	53.65	57.66	57.49	54.35	55.01	56.25	53.14

Source: National Socio Economic Survey, Module Consumption, 1999, 2002, and 2005 (2003, 2004 and 2006 only include panel 10.000 households while in 2007, 2008 dan 2009 include 68.800 households). The data in 2011-2012 were from first and third quarter of National Socio Economic Survey data (Maret and September) include 75.000 households.

Source : Statistic Indonesia

*Computed from individual data

2.1.3 Utilization

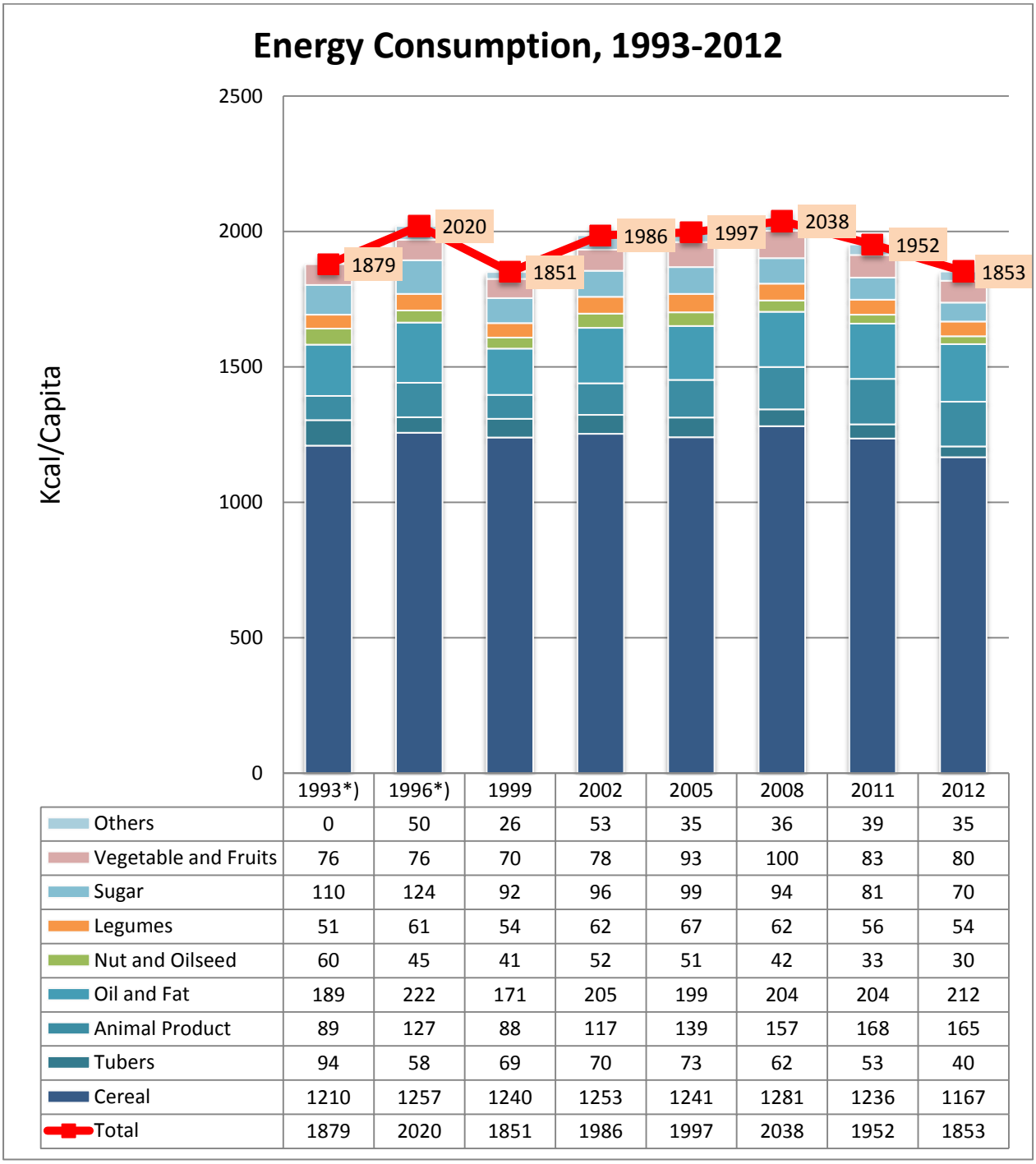
Table 2.8 Comparison of the current food consumption situation

Food Consumption	Current	Sources/Year	Baseline	Sources/Year
Average daily consumption of calories per person – Kcal	1853	National Socio Economic Survey/ 2012	1879	National Socio Economic Survey/ 1993
Calories from protein - %	11.47	National Socio Economic Survey/ 2012	9.69	National Socio Economic Survey/ 1993
Calories from fat - %	-		-	
Average daily fruit consumption (excluding wine) (g)	69.1	National Socio Economic Survey/ 2012	170.1*)	National Socio Economic Survey/ 1993 *)*total consumption of fruit & vegetables*
Average daily vegetable consumption (g)	130	National Socio Economic Survey/ 2012		

Quality of food consumption can be measured by food diversity score which is pupularly called as score of desirable dietary pattern (DDP). The DDP has been introduced by FAO RAPA to represent the quality of community diet, since than, the Goverment of Indonesia use the DDP as indicator of food diversity.

An adequate, healthy diet must satisfy human needs for energy and all essential nutrients. The recommended level of dietary energy intake for a population group is the mean energy requirement of the healthy, well-nourished individuals who constitute that group. In Indonesia, recommended level dietary energy intake in 1998 is 2200 kcal/cap/day, during 1999-2012 total energy consumption is fluctuating, in 2008 total energy consumption is more than energy requirement, but slowly decline until 2012 (**Graph. 2.2.)**.

Graph. 2.2 Trend of Energy Consumption Indonesia, 1993-2012



	1993*)	1996*)	1999	2002	2005	2008	2011	2012
Others	0	50	26	53	35	36	39	35
Vegetable and Fruits	76	76	70	78	93	100	83	80
Sugar	110	124	92	96	99	94	81	70
Legumes	51	61	54	62	67	62	56	54
Nut and Oilseed	60	45	41	52	51	42	33	30
Oil and Fat	189	222	171	205	199	204	204	212
Animal Product	89	127	88	117	139	157	168	165
Tubers	94	58	69	70	73	62	53	40
Cereal	1210	1257	1240	1253	1241	1281	1236	1167
Total	1879	2020	1851	1986	1997	2038	1952	1853

Source: Susenas, BPS, analyzed by MoA

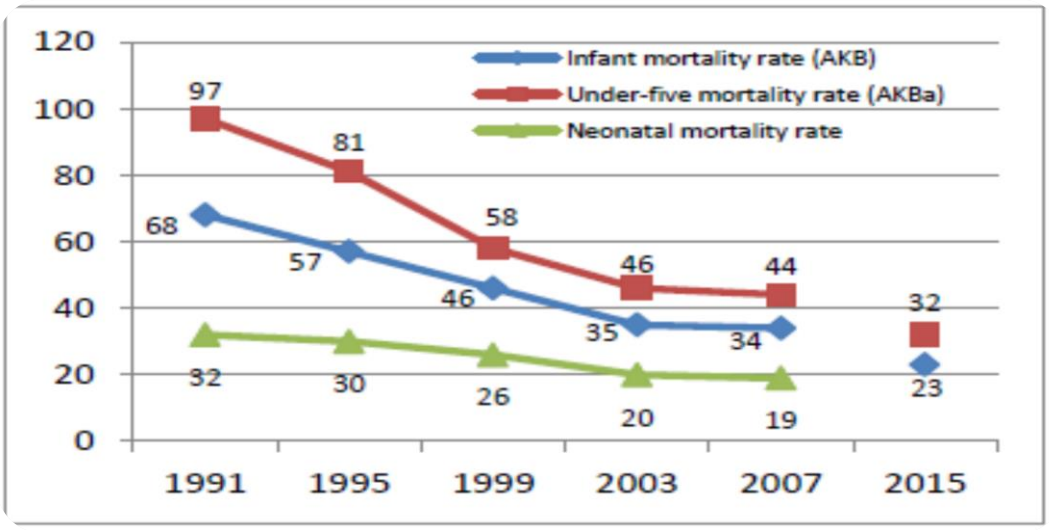
2.2. Health and Nutrition

Table 2.3 provide information regarding the progress of health and nutrition situation in the last two decades. It is expected to able to make a comparison of situation at at the baseline (early 90s) and endline (2012), but unfortunately the data at baseline and/or endline years are not available entirely. With this limited data availability however, we still can conclude that improvement appear in almost all of indicators . Despite of the progress, some problems emerge, particularly the prevalence of obesity (BMI > 30) that was only 3.9% in 2002, sharply raise to 11.7% in 2010.

Table 2.9 Comparison of the current health and nutrition situation

General Indicators	***Current***	***Sources/Year [i]***	***Baseline***	***Sources/Year [i]***
Nutritional Anthropometry (WHO Child Growth Standards)				
Prevalence of stunting in children < 5 years of age	35.6	Basic Health Research-MoH/2010	36.8	Basic Health Research-MoH/2007
Prevalence of wasting in children < 5 years of age	13.3	Basic Health Research-MoH/2010	15.5	Basic Health Research-MoH/2002
Prevalence of underweight children < 5 years of age	17.9	Basic Health Research-MoH/2010	31.0	Basic Health Research-MoH/1989
Prevalence of obesity >30 BMI	11.7	Basic Health Research-MoH/2010	3.9	Basic Health Research-MoH/2002
Women (15-49 years) with a BMI < 18.5 kg/m²	NA		NA	
Infant and young child feeding by age				
Exclusive breastfeeding under 6 months %	41.5	Indonesia demographic and health survey-MoH/ 2012	42.4	Indonesia demographic and health survey-MoH/ 1997
Breastfeeding with complimentary foods (6-9 months)	79.2	Indonesia demographic and health survey-MoH/ 2012	NA	
Micronutrients				
Households consuming adequately iodized salt (> 15ppm) -%	86.0	Basic Health Research-MoH/2007	58.1	Basic Health Research-MoH/1997
Vitamin A supplementation coverage rate for children aged 6-59 months-%	82.8	MoH/2012	60.2	MoH/1995
Percentage of children age 6-59 months with anemia	47.0	Household Health Survey/2001	40.5	Household Health Survey/1995
Percentage of women age 15-49 with anemia	26.4	Household Health Survey/2001	39.5	Household Health Survey/1995

Graph 2.3 Declining under-5, infant, and neonatal mortality rates, 1991-2007



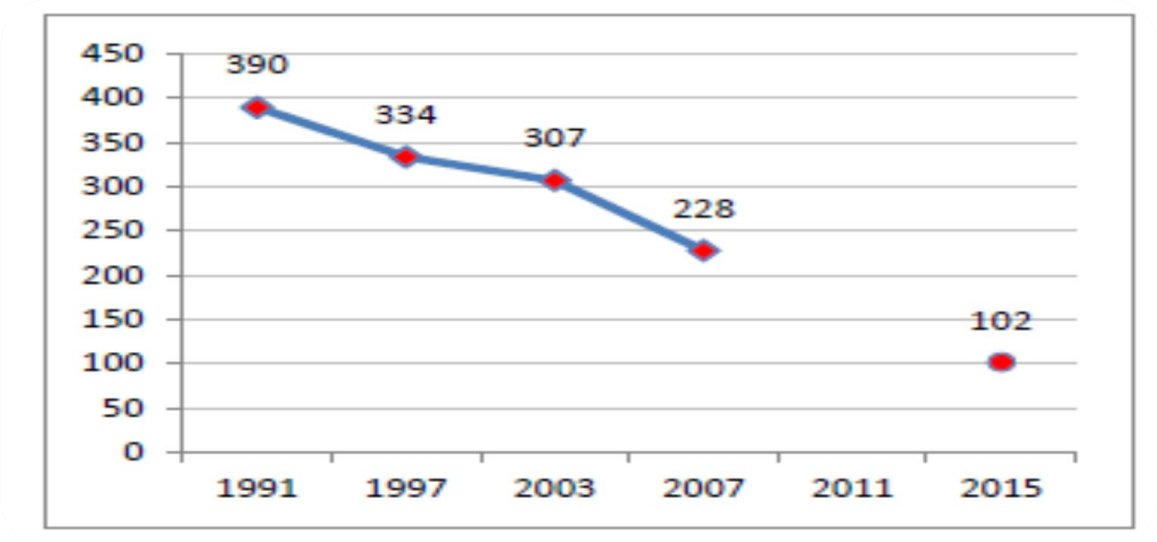
Source: IDHS (*BPS*), several years

Among the better off situation during the last 20 years period is improvement of the health status in Indonesian child as indicated by declining rates of neonatal, infant, and under-five mortality (Graph 2.3). Under-five mortality declined sharply from 97 per 1,000 live births in 1991 to less than half, which were 44 in2007. Infant mortality rate significantly declined from 68 per 1,000 live births in 1991to 34 per 1,000 live births in 2007. Over the same period neonatal mortality rate also declined from 32 per 1,000 live births to 19per 1,000 live births.

Nevertheless, when comparing the IDHS of 2002-2003 to 2007, the declines in neonatal, infant, and under-5 mortality tend to be stagnant. The main cause of under-5 mortality was neonatal complications (asphyxia, low birth weight, and neonatal infections), infectious diseases (primarily diarrhea and pneumonia) as well as closely related to nutritional problems (malnutrition). Other issues were the disparity among provinces on neonatal mortality, infant mortality and under-5 mortality are relatively high. This condition was caused by issues of quality and access to health services, socioeconomic and cultural issues, infrastructure development as well as the openness of areas to educational and economic development.

Efforts to improve the health of children is affected by increased coverage of services received since pregnancy period through: quality prenatal care, delivery attended by healthcare professionals primarily in health facilities, neonatal care (through neonatal visits), immunization coverage primarily measles immunization, neonatal treatment, and treatment of ill infants and children under-5 according to standardized basic health facilities and referral health facilities. Coverage of care can also be improved through increasing knowledge of families and the community on care during pregnancy and during the neonatal, infant and toddler stages, as well as early detection of disease and care seeking behavior to health facilities.

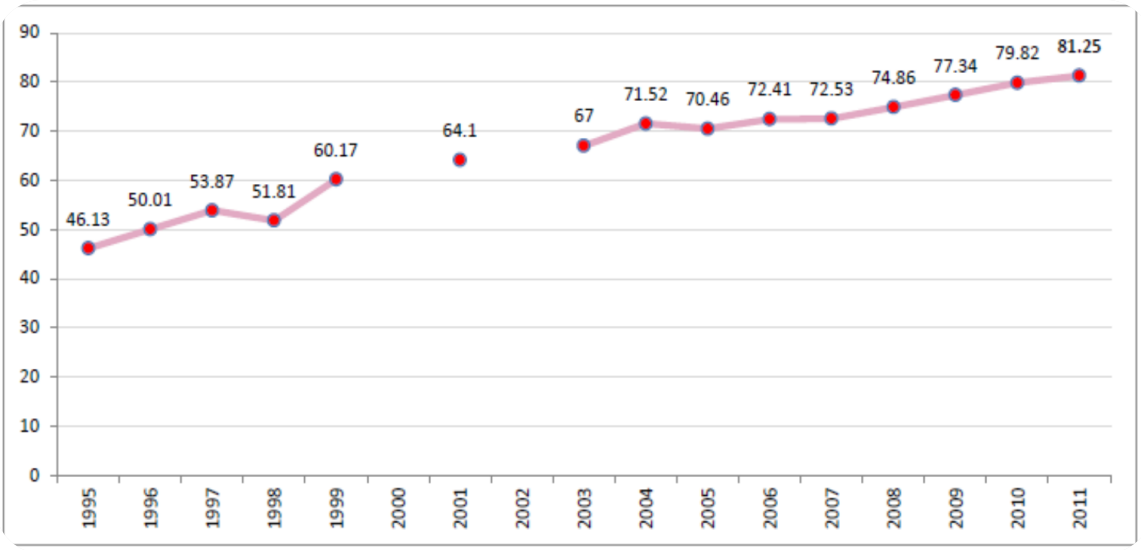
Graph 2.4 Maternal Mortality Rate (Per 100,000 Live Births) In Indonesia, in 1991- 2007



Source: BPS, various years of IDHS

Maternal mortality is one of the MDG targets that require hard work to achieve, the target of 102 per100,000 live birds by 2015. Maternal mortality declined from 390 in 1991 to 228 per 100,000 live births in 2007 (Graph 2.4). WHO estimates that approximately 15-20 percent of pregnant women, both in developed and developing nations, will experience high risk and/or complications. One of the most effective methods to reduce mortality is by improving births attended by skilled health personnel.

Graph 2.5 Progress in births attended by skilled health personnel, 1995-2011



Source: BPS, various years of *Susenas*

Proportion of births attended by skilled health personnel has increased significantly at national level from 46.13 percent in 1995 to 81.25 percent in 2011 (Graph 2.5). 2010 *Riskesdas*(MOH) data indicates that the proportion was 82.20 percent. However, deliveries in health facilities remained low as high as55.4 percent (Riskesdas, 2010). Health facilities

able to offer obstetric and basic emergency neonatal services (PONED) and obstetric and comprehensive emergency neonatal services (PONEK) continued to improve. The percentage of health clinics offering PONED care was 54 percent (2010 Health Profile) whereas city/ district hospitals offering PONEK reached 87.61 percent (MOH, 2011).

Table 2.10 Trend of Malnutrition 1989 – 2010

Problem	Year					
	1989	1995	2000	2006	2007	2010
Underweight (%)						
- Severe underweight (W/A)	7.2	12.8	8.4		5.4	4.9
- Moderate underweight (W/A)	23.8	15.4	13.2		13.0	13.0
- Total underweight (W/A)	31.0	28.2	21.6		18.4	17.9
Stunted (H/A) (%)					36.8	35.6
Anemia, children (%)		51.5		25.0		
Vitamin A Deficiency (VAD), X1B	0,35				0,13	
Obesity>18 Years (%)						21,7
- Women (%)						26.9
- Man (%)						16.3
Children under five (%)						14,2

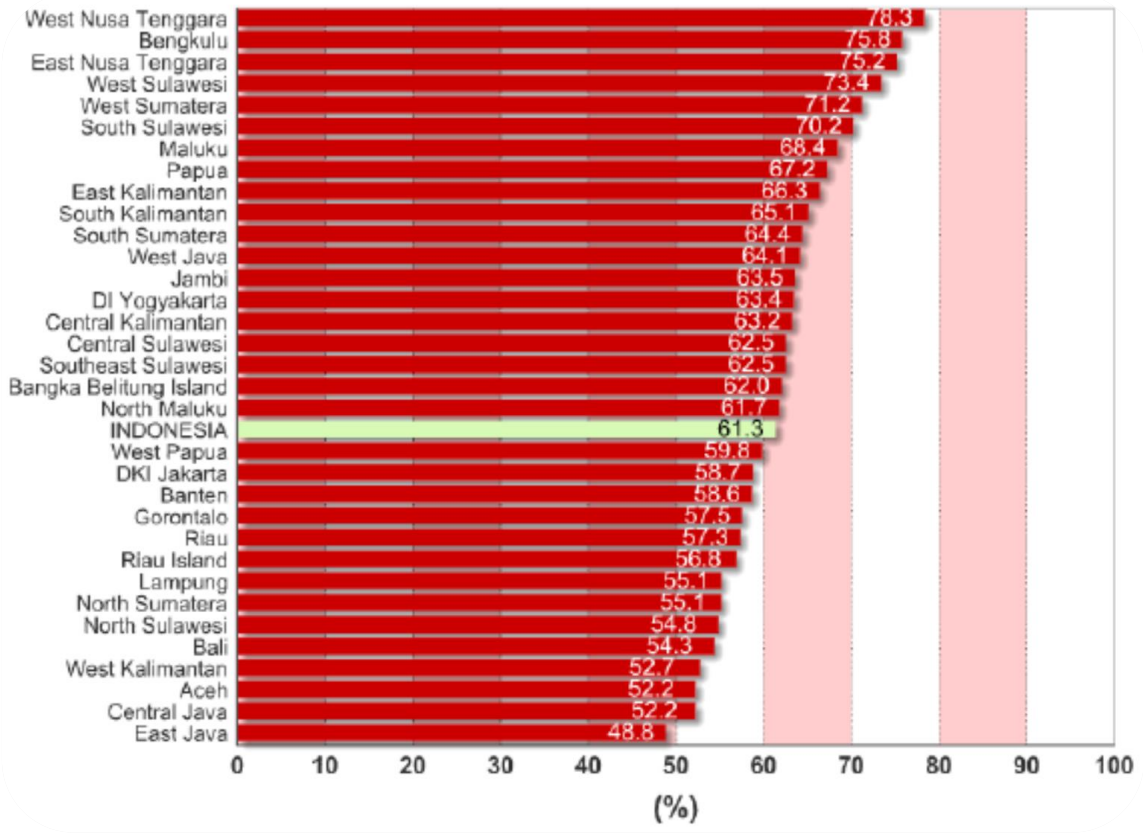
Source: Statistic Indonesia, Susenas, 1989 – 2005, Riskesdas 2007 and 2010

Food and nutrition security are among the key agendas in national development. Food and nutrition security have direct linkage to the status of community health. Materialization of food and nutritional security is inextricably linked to efforts to raising the health quality of both the individual and the community, and to strengthened competitiveness of human resources, which in turn will develop into a nation's competitiveness and sustainable economic development.

Indonesia is on track to achieving the MDGs, particularly reducing the under-five malnutrition rate from 24.5 percent in 2005 to 17.9 percent in 2010 (Riskesdas 2010). This trend must be maintained in order for Indonesia to achieve the targeted rate that has been identified for 2015, i.e. 15.5 percent. However, Indonesia faces yet another challenge relating to food and nutrition, namely the high prevalence of stunting under-five children. Riskesdas data of 2010 showed this prevalence to be at 35.6 percent.

Vitamin A Deficiency (VAD) indicated by X1B was reduced from 0,35 in 1989 to 013 in 2007, mean while anemia in children also reduced from 51,5% in 1995 to 25,0% in 2006. Despite of significant decreased of underweight, Anemia and VAD defiiciency, however the prevalence of obesity tend to increased.

Graph 2.6 Coverage of exclusive breastfeed to 0-5 Month infants By province, 2009



Source: BPS-Statistics Indonesia, Susenas 2009

The best and most appropriate way to feed an infant is by giving breastfeed exclusively since newly born to age of 6 months and continued breastfeeding until age of 24 months. Since age of 6 months, a baby gets nutritious complementary food based on the needs of baby growth and development.

Coverage of exclusive breastfeeding is affected by i.e. limited breastfeed counselor, not available regulation concerning breastfeed and not optimum education, socialization, advocacy and campaign concerning breastfeed (ASI) and complementary feeding (MP-ASI), not optimum group of complementary breastfeed and breastfeed assistance as well as lack of facilities for communication, information and education (KIE) of breastfed. Graph 4.55 presents coverage of 0-5 month infants breastfed exclusively.

SUSENAS 2009 noted 61.3% infants aged 0-5 months breastfed exclusively had coverage ranging from 48.8% to 78.3%. Provinces with highest coverages were West Nusa Tenggara, Bengkulu and East Nusa Tenggara, while provinces with lowest coverages were East Java, Central Java and Aceh. Graph 4.55 shows that provinces in eastern Indonesia has coverage of infants aged 0-5 months breastfed exclusively higher than provinces in Java and Bali islands.

Percentage of breastfeeding infants aged 0-5 months pattern by age group can be seen in table below.

Table 2.11 Pattern of Breastfeeding Infants Aged 0-5 Months By Age Group, 2010

Age Group	Pattern of Breastfeeding		
	Exclusively	Predominant	Partially
0 month	39.8	5.1	55.1
1 month	32.5	4.4	63.1
2 month	30.7	4.1	65.2
3 month	25.2	4.4	70.4
4 month	26.3	3.0	70.7
5 month	15.3	1.5	83.2

Source: National Board of Health Research and Development, MoH RI, Riskesdas 2010

Remarks:
Exclusively = feeding infants only with breast milk
Predominant = breastfeeding but having been feeding baby with water or water base, e.g. tea, as pre lacteal food/drink before breast milk comes in
Partially = breastfeeding and feeding with processed food, e.g. formula milk, porridge, or other food before baby age 6 months, given as pre lacteal or continued feed

The older infant is the fewer exclusive breastfeeding. There was 39.8% newborn (0 month) got breastfeed exclusively, while there was only 15.3% infant aged 5 months still got breastfeed exclusively. In predominant pattern, the lower percentage is the older infant age. On the other hand, in partial pattern, the older infant age is the higher percentage of partial breastfeeding. In the group of 0 month infant, 55.1% has been fed with other food than breast milk.

Efforts to improve exclusive breastfeeding are increasing personnel knowledge on benefit of exclusive breastfeeding, providing breastfeeding facility in working area, improving mother skill and knowledge, developing family and community supports and how to control distribution of formula milk. In addition, another important thing is by applying 10 ways to achieve breastfeeding success (LMKM) in hospital and other health facilities that providing delivery care. The 10 ways are: 1) making breastfeeding; 2) training staff in health facilities; 3) education, information and communication (KIE) to pregnant woman on benefits and management of breastfeeding; 4) helping mother to early initiate breastfeeding within first 60 minutes after delivery process; 5) assisting mother how to breastfeed and keep it though mother and baby are placed separately; 6) only feeding breast milk to newborn, except when there is medical indication; 7) applying integrated mother baby care for the whole day (24 hours); 8) encouraging mother to breastfeed based on baby demand; 9) not providing grease nipple to baby; and 10) encouraging the establishment of breastfeeding supporting team and referring mother to join the team as soon as discharging from health facility.

Table 2.12 Micronutrient Supplementation and Fortification

Program	1995	2000	2005	2007	2008	2009	2010
Vitamin A Capsule supplementation							
- Infant (6-11 month) (%)				**84.5**	**87.4**	**83.1**	**81,4**
- Children <5 (%)				**87.1**	**83.3**	**84.0**	**87.1**
- Postpartum mother (%)				**57.7**	**58.6**	**63.0**	**72.5**
USI (Universal Salt Iodization)*	**49,8**	**64,6**	**72,8**				
Iron Tablet (Mother)			**60,0**				**72,3**

*percentage of household consume adeqiaate iodized salt

Source **:** DG of Nutrition and Maternal and Child Health, MoH **(2012)**

Vitamin A supplementation to under five has a purpose to reduce prevalence of and prevent vitamin A deficiency on under five. High doses of vitamin A have proven effectively to overcome vitamin A deficiency (KVA) in community, when the coverage is high. Other facts figure vitamin A role in decreasing infant mortality rate significantly. Therefore, in addition to prevent blindness, the important of vitamin A is associated to life survival, health and child growth. Vitamin A is important for eyes health and prevent blindness as well as develop body immunity. When children with enough vitamin A intake get diarrhea, measles or other infections, they will not get the diseases worsening and endangering their lives.

Target of high doses vitamin A are infants (6-11 months) supplemented with Vitamin A100,000 SI, under fives (1-4 years) supplemented with Vitamin A 200,000 SI and postpartum mother, supplemented with Vitamin A 200,000 SI that their newborn will get enough A through. To infants (6-11 months), high dose vitamin A is given once a year on February or August; and to under fives, it is given once in six months at the same time on February and August; while to postpartum mother, the supplementation should be integrated with postpartum health care, but it can be also provided outside the antenatal care, as long as she has not got vitamin A supplementation.

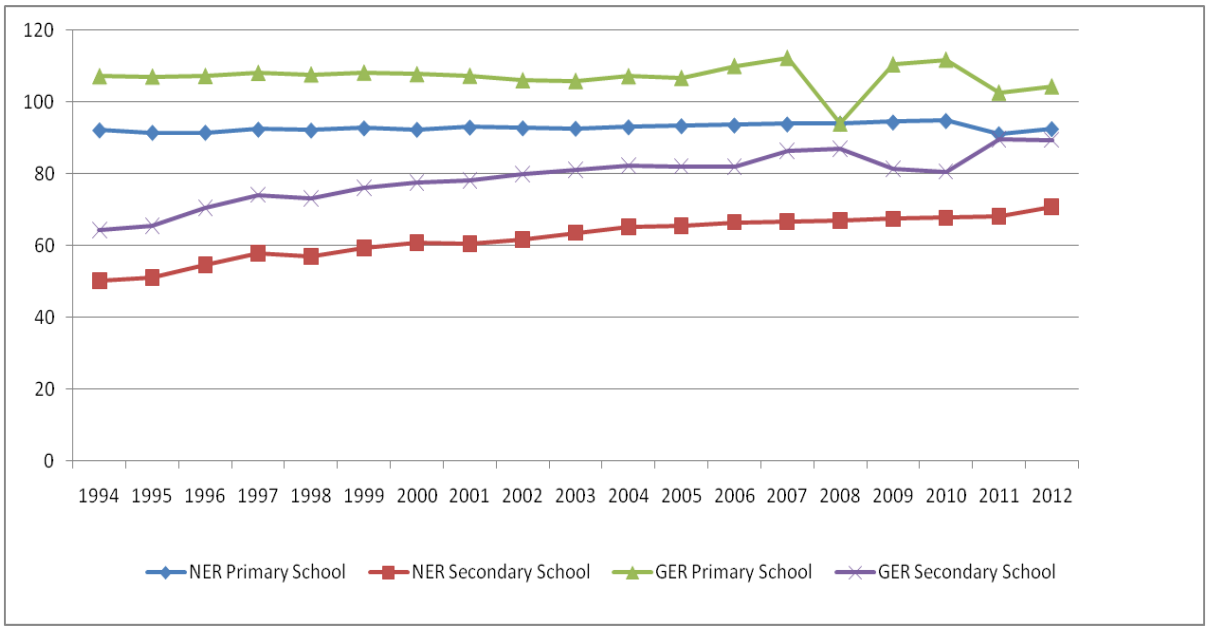
Coverage of vitamin A supplementation to infants and under five for the last 4 years indicated achievements above 80%. Coverage in 2010 was the lowest for the last 4 years, both on vitamin A supplementation to infants and to under fives. On the contrary, achievement of vitamin A supplementation to postpartum mother was still under 80%, although there was a tendency of rising coverage for the last three years. Therefore, some efforts are still needed to scale up the coverage. Those could be improvement of integrated post-natal care, sweeping areas with low coverage and campaigning vitamin A supplementation program.

Food fortification is the the approach to overcome micronutrient defficiency by adding essential nutrients to food. Effort to fortify food has begun since 1982 with universal iodized salt, to combat total goter rate (TGR). Salt fortification became mandatory fortification in 1994 based on Indonesian National Standard. The prevalence of TGR in 1980 aproximately 25%, and in 2003, it was sharply decreased into less than 10%. Another government fortification program was flour fortification, initiated in 1990's. In 2001, Ministry of Industry and Trade was issued the regulation that flour fortification is mandatory, flour must be

fortified with Fe, Folic acid, Zn, Vitamin B1 dan B2, based on Indonesian National Standard No 01-3751-2000.

Recently, besides Vitamin A supplementation, Government also initiated Vitamin A fortification on palm oil. The study began since 2005, and in 2012, the Indonesian National Standard on fortified palm oil with vitamin A 45 IU, number 7709-2012 has been issued. The next step is mandatory fortification on palm oil, regulation regarding that issue has been propossed.

Graph 2.7 Progression of NER and GER indicators for Primary School (SD/MI) and Junior Secondary School (SMP/MTs), 1994-2012



Source: Statistic Indonesia

Education is the basic right of every citizen that the government must be provided. As a form of commitment in providing opportunity to education, in 1994, the Government of Indonesian declared compulsory primary education for children between the ages of 7-15 years, encompassing education at SD/MI level and SMP/MTs level. Achievements in primary education services are measured by three indicators: (i) NER Primary School (SD/MI); (ii) Proportion of pupils starting grade 1 who complete primary school; and (iii) literacy rate for people aged 15-24 years.

Efforts to provide opportunity for all school-age children to complete primary education showed encouraging results. In terms of access, participation in education at SD/MI/equivalent level experienced a significant rise as is shown by NER and GER indicators. However, NER and GER by themselves cannot completely explain the existing realities. With this proportion in mind, the remaining target of education participants has been categorized as children with various difficulties in accessing education, including distance to school combined with lack of public transportation and the parents' economic indigence.

The Net Enrolment Ratio (NER) experienced an increase. The NER at primary education (SD/MI) level from 1994 to 2012 relatively steady at 92 percent, meanwahile the Gross

Enrollment Rate (GER) always exceeding 100 percent, except 2008.(Graph 2.7). If the current level of progress is maintained, it is estimated that Indonesia will achieve the educational MDGs in 2015. The rise in the primary education NER indicator is a reflection of sustainable government policy of increasing access to primary education.

This early entry phenomenon of the last few years has contributed to difficulty in achieving the NER target of 100 percent at the primary education level since a portion of children aged 6 years and under have already started in primary school and some children aged 12 years were even at the junior secondary level (SMP/ MTs). For this reason, the School Participation Rate (SPR) is also used to measure education participation for ages 7-12 years. According to data off the 2011 Susenas (BPS), SPR for ages 7-12 years reached 97.58 percent. This means that only 2.42 percent of children aged 7-12 years have not attended school.

The very sharp difference between GER and NER for the primary education (SD/MI/equivalent) level, and more notably so for the junior secondary (SMP/MTs/equivalent) level, indicates that many students are late in completing their primary education that impact will be felt at the junior secondary level. However, besides the delay there is yet another problem of more serious consequence, namely school dropouts, primarily at the primary school, as once they quit at this level, students will not go to continue to the junior high school/equivalent schooling.

3. Current Nutrition Policy Framework and Implementation

3.1. Policy Framework For Addressing Nutrition Problems

At present, the legal basis of food and nutritional program policies in the long term at national level is formulated in the Law No. 17 / 2007 on National Long-Term Development Plan (RPJPN) 2005-2025. The multi-sectoral approach to food and nutritional development in the Law has been clearly stated that nutritional development includes production, processing, distribution, and food consumption with adequate, balanced and safe nutritional contents.

General policy on food and nutrition adressed at national food and nutrition action plan (RAN-PG) is to improve community nutrition, particularly mother and children through provision adequate food availability, increasing access to sufficient and safe food, and improving a healthy life style and all supporting measures required. A cross-sectoral approach and public-private partnership should be implemented.

The implementation strategy include the following: 1) community nutrition improvement, 2) increase economic and physical accessibility of food, particularly among the food insecure households/individuals, 3) strengthening food safety for fresh and industrial products including smale scale industry; 4) improving healthy life style (PHBS) through a community development and Posyandu revitalization, and 5) strengthening food and nutrition security institution.

In the RPJMN of second phase (2010-2014), there are two *outcome* indicators related to nutrition, namely the prevalence of under nutrition (malnutrition and severe malnutrition) by <15% and the prevalence of stunting by 32% in the end of 2014. The targets of nutritional programs have also been formulated clearly, focused more on pregnant mothers and children aged 2 years.

In Indonesia and many other developing countries, the disorder of growth and development process is not only under nutrition but also many other environmental factors. Research also shows that the fetal growth and development process is influenced by the physical and health conditions of mothers at the adolescent time and will become mothers. Therefore, efforts to prevent the occurrence of fetal growth and development disorders to children aged 2 years are focused on pregnant mothers, children aged 0-23 months and pre-marital female adolescents which is known as the 1000 Days of Life group is become the major nutrition program developed in Indonesia.

Basically there are two interventions approach to cope with the problem, namely specific and sensitive interventions. Specific interventions are actions or activities which in their planning are specifically intended to the group of 1000 Days of Life. These activities are generally undertaken by the health sector, such as immunizations, supplementary feeding of pregnant mothers and growth monitoring of under-five children in Posyandu (*Integrated Service Post*), supplement of iron-folate tablets to pregnant mothers, promotion of Exclusive Breastfeeding, Complementary Feeding and so forth. Specific nutritional interventions are short term in nature. The results can be recorded in a relatively short time.

Sensitive nutritional interventions are a range of development activities outside the health sector. The target is the general public, not special for the 1000 Days of Life groups. However, if planned specifically and in an integrated way with specific activities, the impacts will be sensitive on the safety of the growth and development process of the 1000 Days of Life. The combined impacts of specific and sensitive activities are ("sustainable") and long-term. Some of the activities include clean water supply, sanitation facilities, poverty reduction, food security and nutrition, food fortification, nutritional education and IEC, health education and IEC, gender equality, and others.

3.2. Food and Agriculture Programmes and Interventions Being Implemented To Improve Nutrition

Since World Food Summit (WFS) 1992, most of the country pledged and agreed to give emphasis to the importance of agriculture and rural development in eliminating poverty and hunger. Indonesian Constitution Act number 17 year 2007 on the National Long Term Development Plans 2005–2025 states that “Development and improvement of nutrition should be implemented through inter-sectoral collaboration covering production, processing, distribution and consumption of food with adequate**,** balance and safe nutrition content”. The act is the guidance of the overall policy in Indonesia and implemented into 4 stages of National Medium-Term Development Plans (RPJMN). RPJMN 2010–2014 has 11 priority program, food and nutrition security can be covered by priority program no 3. (Health) and no 5. (Food security).

3.2.1 National Policy on Agriculture and Food Security

Food security policy to increase food security and continuation of the revitalization of agriculture for realizing self-reliance in food, increasing the competitiveness of agricultural products, increasing the income level of farmers, and conserving the environment and natural resources, by the following programs:

a. Land, Development of Agricultural Zones and Agricultural Spatial Planning.
b. Infrastructure: construction and maintenance of infrastructure in transportation, irrigation, electricity networks, communication technology, and the national information system that serves regions

that are agricultural products centers, to increase the quantity and quality of production and increase the ability to market the products.

c. Research and Development: increasing research and development activities in agriculture that can create superior seeds and other research outputs towards the enhanced quality and productivity of national agricultural products.
d. Investment, Financing, and Subsidies: encouraging investment in food, agriculture, and rural industries that are local products based on business entities and the government, providing financing that can be reached, and subsidies that can ensure the availability of tested superior seeds, fertilizers, appropriate technology and post-harvest facilities on a timely basis and in the right quantity, and which are affordable.
e. Food and Nutrition: increasing the quality of nutrition and food diversity through the enhancement of the hope food approach.
f. Adaptation to Climate Change: taking concrete steps that are related to adaptation and anticipation of the food and agricultural system to climate change.

3.2.2 General Policy on Agriculture

RPJMN give the give the direction of the target and the objective of Indonesian development in general and Agricultural Development Plan in particular. Food security and health are the priority among eleven national priorities. RPJMN has been adopted by Ministry of agriculture to formulate policy and program on combating poverty and attaining food security into individual level, wrap it up into **4 keys success in agriculture as a general target**, namely:

a. Self sufficiency and sustainability self sufficiency;

Self sufficiency for staple food is very important, it is essential aspect for a nation regarding their ability to fulfill food or ensuring food availability to all people. Indonesia has reached self sufficiency paddy in 2007 as well as corn in 2008, and been targeted to sustain those achievement into 2014. Meanwhile sugar and meat was targeted to achieve self sufficiency in 2014. The following programs has formulated to achieve those targets:

- Improving production and productivity, as well as quality for agriculture crops particularly paddy, corn, soybean, sugar and also increase livestock production particularly big ruminants meats adequately, safely and halal.
- Improving agriculture infrastructure and resources to attain self sufficiency targets.
- Innovation on agriculture technology and research on improving and produce high quality seed.
- Increasing capacity and empowering agricultural human resources directed to: (a) formulating extension revitalization policy, assistances, education and agricultural training; (b) increasing peoples' participation; (c) increasing competency and morale of agricultural units; and (d) developing farmer institutions.

b. Improving food security and food diversification

Food diversification is an important part of Food security aside of food availability and food accessibility. Food security enhancement program is intended to guarantee the continuous availability of diversify, healthy and *halal* food. At the household level, food security is associated with the household capacity to access food from market. Therefore, household

food security is dependent on household purchasing power. In line with this, increasing household income is a key factor in increasing household food security. Food covers plant, animal and fish to meet the demand for carbohydrate, protein, fat, vitamins and minerals as well as their derivative which are useful for health.

Main target on food consumption diversification is decreasing rice consumption 1,5% per annum, and wheat. On the other hand several food groups commodities are expecting to be increased, namely tuber, fruits, vegetables as well as food of animal origin. Food diversification become an important agenda of agriculture developments. Presidential Regulation number 22 /2009 has been issued to support Food diversification through a nation, furthermore, Ministry of Agriculture also issued Ministry Regulation No 43/2009 to consolidate agriculture resources on supporting food diversification. The following program has been issued to achieve target on food security and food diversification:

1) Increasing national food production capacity through Intensification and expansion of staple food production Development of local food source alternatives Development of non-rice local food consumption pattern Development and rehabilitation of irrigation networks.
2) Securing food stock and availability.
3) Securing distribution and accessible of qualified, safe, healthy and *halal* food.
4) Diversification of food production and consumption based on local resources.

c. Improving competitiveness and value added of agriculture products

This program is aimed for facilitating the development of agribusiness activities in order to produce competitive agricultural products for domestic and international market, and increase farmers' income as well as contribution agricultural sector to the national economic. Improving agriculture product value, competitiveness and increasing export should be focused on strategic agriculture commodities. Export on agriculture products should be possible for both fresh and processed agriculture products. Several scheme to boost export of agricultural product as follows:

1) Product certification system, through good agriculture practices (GAP), Indonesia National Standard (SNI) certification, and other food certification systems.
2) Development of the whole agribusiness activity including downstream, on-farm, upstream (agro industry).
3) Improvement of value added through processing activities and quality improvement.

d. Improving farmers welfare

The main objective of this program is to improve farmers' income through empowerment and increase accessibility towards agricultural resources, development of institution, and protection. The program targets are as follows: (1) improvement of farmers' capacity and bargaining position, (2) active farmers' institution, (3) improvement of farmers' accessibility towards productive resources, and (4) increase of farmers' income.

To achieve the above objectives and targets, this program is further broken down into sub programs, namely: (1) Farmers' empowerment, (2) Development of apparatuses of human resources, (3) Development of institutions, (4) Enhancement of farmers access to productive resources, (5) Protection for farmers and agriculture, (6) Development of household business diversification, (7) Acceleration and assessment of agricultural innovation dissemination, (8) Special effort for poverty alleviation, and (9) Development of farmers welfare.

3.2.3 Specific programs on agriculture and food security

The Government of Indonesia also develops sets of operational strategies that focuses on the 3 main pillars fod food security, i.e., availability, accessibility, and utilization.

On availability pillar, the operational strategies involve the following:

a. To achieve a 10 million ton surplus of rice as well as self-sufficiency on maize, sot bean, sugar, and beef in 2014, through (i) rehabilitation of irrigation and agricultural land expansion, (ii) input subsidy (fertilizer and seeds), (iii) output price guarantee by setting a HPP, (iv) insurance for harvesting failure, and (v) dissemination of technology and revitalization of extension services.
b. Import of staple food is only allowed when the domestic production of food is inadequate.
c. To promote diversified food supply that based on local culture and resources.
d. To establish national rice reserve system to control fluctuation on supply and price.

On accessibility pillar, the operational strategies involve:

a. To maintain stability of food supply and price.
b. To facilitate food distribution through development of regional connectivity.
c. To conduct food distribution for chronically food-insecure households (Raskin Progam/Rice for the Poor Program).
d. To provide food assistance for transient food vulnerable households resulting from natural, social, and economic disturbances.

On utilization pillar, the operational strategies involve:

a. To promote diversification on food production and consumption through (i) changing the mindset toward diversified consumption pattern with balance and safe nutritional content, (ii) promoting optimal utilization of backyard (KawasanRumahPangan Lestari/KRPL), and (iii) strengthening micro-scale business on flour-based processed foods.
b. To improve household nutrition and specific groups (under-five age children, women on pregnancy and lactating, and other food-vulnerable groups).
c. To develop proper handling and surveillance to ensure safety of both fresh and processed foods.

3.3. Succes Stories, best practices and lessons learnt from implementing food and agriculture based programmes aimed at improving nutrition

3.3.1 Mother Class at Health Clinic

This class was developed to increase knowledge and change the behavior of mothers and families. With this, it is hoped that the awareness of the importance of health during pregnancy, labor and childbirths increases and that they know about health improvement efforts. This class is a study group of expecting mothers that starts from the beginning of

pregnancy with 10 students. Apart from expecting mothers, husbands or other family members are expected to join this class at least once so that they understand various important materials such as labor preparation. The general purpose of this class is to increase knowledge, change the attitude and behavior of mothers so that they understand about pregnancy, body changes and complaints during pregnancy, prenatal care, delivery, child care, post-delivery family planning, newborn care, local myths/ beliefs/ customs, infectious diseases and birth certificates.

The expecting mothers class at Health Clinics have started since 2009. Because there are still cases of maternal complications that are referred to health facilities too late, the low deliveries by health workers, and the high cases of maternal mortality in 2010, the West Lombok Ministry of Health created a policy starting that all expecting mothers are required to follow expecting mothers class activities. These activities are carried out at all villages at different locations such as Health Clinics, Village health posts, cadre homes, village offices, village halls, huts and other places easily accessed by expecting mothers. The activities are carried out over 4 meetings. Each meeting is 2 hours, and ends with exercise from pregnant mothers. Funding is obtained from various sources such as Jamkesmas, BOK, NICE and Indocement. As of 2009, there were 60 classes. As of 2010, there were 100 classes. And as of 2011, there were 102 classes.

One of the obvious results from the expecting mothers class in West Lombok is the increased program coverage and the decline in maternal mortality from 131/100,000 live births (2010) to 74/100,000 live births (2011). The class needs relevant cross sector support in order to optimize achievement of the expected goal.

The certificate given to mothers who joined this expecting mothers class at the Jelambar Health Clinic

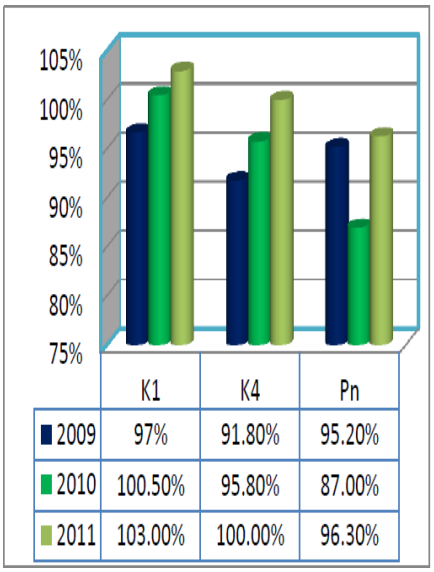


Figure 3.1. K1, K4 and Pn coverage data in 2009, 2010, and 2011 at Jembatan Kembar Health Clinic Source: Ministry of Health

3.3.2 Food Resilience Village Programme (*Desa Mandiri Pangan*)

Food Resilience Village (Desa Mandiri Pangan) at **Madukoro Village, Kajoran, Magelang, Central Java Province**. Food Resilience Village (Desa Mandiri Pangan) are effort to empower people's lives, which enables them to utilize of the abundance of local resources (Natural resources, Human resources, technology, social, cultural, economic) to be able to escape the cycle of poverty and to achieve food security in their community.

The community group in Madukoro Village has applied the program since 2011, and the activities still go on up to now, even better. The main activities are developing fishpond and livestock (goat). The initial fund was used to buy several goat (18 goat in 2011) and to breed fish using fishpond. The activities has succesfully developed since the goat is expanded into 83 goat (2013) and the pond has acumulates into 70 pond. They also developed home-yard garden activities as an alternatif source of food for the household.

Due to its succesfull impact to food security, *Food and Agriculture Organization* regional office Indonesia (FAO) in Jakarta together with *World Food Programme* (WFP) and *Farmer Initiatives for Ecological Literacy and Democracy* (FIELD) give the recomendation to Food Resilience Village program to join the AGFUND competition, and Food Resilience Village Program won "Internasional AGFUND Prize 2012" in Category 3.

Figure 3.2 Food Resilience Activity in Madukoro Village, Kajoran, Magelang, Central Java Province

3.3.3 Sustainable Food Reserved Garden (SFRG)- Kawasan Rumah Pangan Lestari (KRPL) in Wonogiri Village, Magelang, Central Java, KWT Melati (Melati Woman Group)

Based on President Decree No 22/2009, Indonesia has revitalize Food Diversification Program to achieve food consumption diversification among population, indicated by the improvement of desirable dietary pattern.One of the programs is Sustainable Food Reserved Garden (SFRG)- KawasanRumahPangan Lestari (KRPL). This program involves woman in the family as the main actor to use home-yard optimally for producing food crops, horticulture, livestock, and fish, not only to meet the need of foods and nutritions of the families, but also to increase households' income. SFRG has been implemented in more than 13,000 villages, involving over 240,000 housholds and has been succesfully improve food security in the household level.

Melati Woman group- in Wonogiri village, Magelang, Central Java, has implemented the program since 2011. At the first time the member of the group only 20 households, but now it has expanded into almost all over village. The main activities are home gardeningand establishing village nurseries as a bank seed for the villageto ensure sustainability of the homestead production. Through this program, each of the households can save their daily expenditure for fruits and vegetables up to Rp.15.000,- and they can get additional income from extra production of fruits and vegetables around Rp. 500.000 -1.000.000/monthly. Melati Group also build a good business relation and networking with catering vendors as well as mobile vegetable sellers, which commonly serves people in the villages. In 2013, in World Food Day ceremony this group also achieve an award from Ministry of Agriculture as a model of food diversification groups.

Figure 3.3 Melati Group, and their activities in Sustainable Food Reserved Garden

3.3.4 Complimentary Foods For School Children (PMT-AS) in Sijunjung Distric, West Sumatera

Complimentary Foods For School Children (PMT-AS) is one of national programs for combating poverty, was launch in 1997 based on Presidential Instruction Number 1 /1997 and Number 1/2010. Complimentary Foods for School Children is very important to support their nutrition intake in order to improve their nutrition status and normal growth, concurently to avoid children from malnutrition (underweight and stunting), especially in the poor area.

Sijunjung District is one of the 8 disadvantaged region in West Sumatera Province. One of the strategy to escape from disadvataged region declared by Sijunjung Regent was improvement health community through conducting Complimentary Foods for School Children. The program of complimentary food was not just distributing food to the school children but its a multisectoral program and activities.

Integrated complimentary food program was begun from the farm. Fisheries and agriculture sector in the district gave the assistance how the school can produce from their school yard with fish, chicken, nad various tuber. Family Welfare Movement has the responsibility to give the assistace on how the food from the yard can be transformed into nutritious food in the desk. And finally the health sector will measure regularly the health indicators such as : Hb, weight, height.

The school teacher also has the responsibility such us: 1) to educate the school children to take their breakfast regularly using indigenous food; 2) to inform the children about the complimentary food i.e. nutrition content, the origin, etc; 3) to educate to wash their hand before eating; 4) throw the garbage in the proper place.

Figure 3.4 Complimentary Food for School Children in Sijunjung District

3.4. National Policy on Community health and nutrition

Health policy emphasize the health development on the prevention of illness. Not only on curative health, through increasing community and environmental health, but also by expanding the availability of clean water, reducing slum areas, to lead to an increase of a life expectancy rate from 70.7 years in 2009 to 72.0 in 2014, and attaining all of the targets of the Millennium Development Goals (MDGs) in 2015. Therefore, the core substance of the action program on health comprises the following:

a. Program on public health: the implementation of the Integrated Preventive Health Program.
b. Program on Family Planning: increasing the quality and service scope of Family Planning through 23,500 government and private clinics in 2010-2014.
c. Health facilities: the availability and enhancement of the quality of internationally accredited hospitals.
d. Medicines: the application of the National List of Essential Medicines as the basis for procurement of medicines throughout Indonesia and the limitation of prices of branded generic medicines in 2010.
e. National Health Insurance: the National Health Insurance for all poor communities.

Referring to the results of assessment and analysis of nutrition and other related programs which were conducted to see preparedness of Indonesia in accelerating actions related to food and nutrition, it is agreed to strengthen all the existed components of food, health and nutrition system. The components are human resources, infra-structures, finances, coordination and partnership, provision of health services, research and development (MoH, 2010). All the components should be focused to activities that reducing impacts of *climate change* to have food security at national level and at each areas; emergency health and nutritional care during natural disaster; and community empowerment for eradicating family from poverty through food and nutrition awareness. The policy regarding nutrition and health as follows:

1. The priorities programs to address nutrition problems particularly prevalence of underweight/undernourished children under five years of age and to boost the proportion of the population consuming the minimum level of dietary energy are as follows:

    a. Increase access of the poor, particularly children under five years of age and pregnant women, to adequate nutritious and safe food and other interventions such as nutrient Supplementation. Develop specific c pro-poor assistance interventions in provinces and districts with high prevalence of malnutrition. Other strategies that will be developed include: (i) socializing and advocacy on social and cultural behavior for healthy lifestyle, particularly to promote exclusive breast-feeding and infant feeding practices; and (ii) investments in basic infrastructure (health, water, sanitation), particularly in rural and urban slum areas.
    b. Strengthen community empowerment and revitalize *posyandu.* Strengthen food and nutrition service delivery at the grassroots level through revitalization of *posyandu* and integration of nutrition in the early child education program (*PAUD*).
    c. Improve food security at the local level particularly to reduce disparity among regions.

d. Ensure food security at the local level by: (i) increasing agricultural productivity; (ii) improving the efficiency of food distribution and handling systems; and (iii) acceleration of locally based food diversification programs.
e. Strengthen institutions at central and regional levels giving them stronger authority in decision making, resource allocation.

2. Current policies on child health in Indonesia focus on core interventions of health services and covers: immunization, IMCI, child nutrition program, strengthening the role of the family, and enhancing access to health facilities, as described in the following:

f. Improving immunization coverage against measles through: ensuring that adequate resources are available and roles between central and local government in program implementation are defined.
g. Strengthening strategies to address the key IMCI implementation, through: (i) focusing on IMCI training for health workers; (ii) strengthening management structures at the central and district levels; (iii) ensuring that essential drugs are available; (iv) implementing IMCI at the household and community levels; and (v) counseling for mothers and caregivers.
h. Addressing the key nutritional concerns in children to reduce stunting prevalence, as follows: (i) emphasizing exclusive breast-feeding; (ii) pursuing food supplementation strategies; (iii) promoting child growth; (iv) introducing communication for behavior change (BCC); and (v) pursuing micronutrient interventions, increased dietary intake, food fortification and direct supplementation.
i. Developing strategies at family level for child health, consisting of: (i) protecting children in malaria-endemic areas with insecticide-treated nets; (ii) providing children with a full course of immunizations before their first birthday; (iii) recognizing sick children and seeking care from appropriate providers; (iv) feeding and offering more fluids, including breast milk, to children when they are sick; and (v) treating infected children with appropriate home treatment.
j. Strengthening behavior change interventions by increasing clean and healthy life behavior (PHBS) practices at the household level.
k. Improving newborn care and maternal health, through: (i) implementing the newborn and child survival strategy; (ii) focusing on ‘essential obstetric and neonatal care’; (iii) training for community health workers to promote safe delivery practices; and (iv) providing vaccinations and iron supplementation.
l. Strengthening and improving health facilities, by: (i) promoting primary health care and revitalize *posyandus*; (ii) enabling Basic and Comprehensive Emergency Obstetric and Neonatal Care (BEONC and CEONC); and (iii) ensuring adequate funding for operating costs for hospitals and primary health centers.
m. Improving community participation and mobilization through *posyandu* activities that include: monitoring the nutritional status of infants and toddlers through observation of monthly body weighing, complete basic immunization and other health services.
n. Enhancing policy advocacy that is targeted at provinces with lower levels of achievement on indicators for child health, through: (i) improved resource allocation; (ii) increased provision of public budgets for health; (iii) developing monitoring instruments; (iv) improved

capacity of health personnel; and (v) addressing strategic needs of health workers in remote areas, underserved, border and island areas.

o. Integrating cross sectoral strategies to accelerate achievement of targets for child, infant and neonatal mortality.

3. Current policies related to maternal health

p. Increasing access to family planning services, by means of expanding the service network (coverage and access) and integrating family planning with other reproductive health programs with a focus on the poor and underserved areas.
q. Expanding the village midwife functions, including partnering with TBAs; and strengthening community based care through TBA-midwife partnerships, integrated health post (*posyandu*), village health post (*poskesdes*).
r. Strengthening the referral system, to reduce the “three delays” and save a women’s lives by giving adequate care in time.
s. Reducing financial barriers through: the Family Hope Program (*PKH*)- a household-based conditional cash transfer, Jamkesmas (social health funds assistance for the poor), *BOK* (subsidy for non-salary operating cost for primary health facilities).
t. Improving the continuum of care that includes integrated service delivery for mothers and children from pregnancy to delivery, the immediate postnatal period, and childhood.
u. Increasing the availability of health workers (general practitioners, specialists, village midwives, paramedical staff) in terms of quantity, quality and distribution; focusing to fulfill needs in remote, underserved, border and island areas, through pre-service and in-service training of key health personnel and implementing a contractual service provider scheme.
v. Raising awareness about safe motherhood at the community and household level by strengthening the public health education.
w. Improving adequate micronutrient intake by pregnant women. Providing an enabling environment to support management and stakeholder participation in policy development and the planning process, and promote collaboration across programs, across sectors, between public and private sector entities, including developing linkages with the community to implement the synergies in advocacy and services provisions.
x. Improving the information system, in particular by: (i) introducing analytical methods to measure maternal deaths drawing on diverse sources of varying quality; (ii) focusing on groups and areas most at risk of maternal death; and (iii) developing models for identifying effective safe motherhood strategies.
y. Strengthening coordination mechanism by defining modalities for sharing roles and responsibilities between central, provincial and district authorities and introducing beter program oversight and management through surveillance, monitoring, evaluation and financing; while focus and intensify priority targeting of interventions to poor and underserved areas. In addition, building effective partnerships across programs and sectors to make use of synergies in service provision and advocacy.
z. Addressing particular issues related to decentralization and strengthen and sharpen the tasks in achieving health Minimum Services

Standards (MSS) as part of target indicators of MDGs, to ensure the achievement of health development goals at all level

4. Analysis of Past and Current Nutrition Actions In The Country

4.1 Food Security

4.1.1 Food security concept

The concept of food security evolves in response to major social, economic, political and environmental change, both domestic and international. In the New Order era, food security was only considered with regard to macro or national availability. With the introduction of the National Food Law, the concept of food security now include aspects of food supply, distribution and availability, and consumption. In the decentralization era, the respective concept include an aspect of management. This entail the distribution of management task between the central government and regional government, whereby the government function as a provider of services, a supporter, a facilitator and an advocator, and the communities are the main actors of food security development. Stabilization of food security is achieved through various community empowerment programmes. In the near term, community empowerment programmes should be intensified to enable communities to overcome food problems autonomously and achieve sustainable household food security.

4.1.2 Food security programme

There are several programme of food security has been implemented by the government, i.e. Programme on strengthening fund of rural economic venture institution (CSF-REVI); Village food independence programme; Acceleration of food diversification programme; participatory integrated development in rainfed area programme (PIDRA); Special programme for food security (SPFS). The rapective food security programme which are implemented in the era of decentralization, have not yet significantly raised food security at national and regional level. This is due to to limited programme participation, and programme not yet having fully reached stated target. From PIDRA and SPFS much has been learned to empower communities in accordance with local resources. Dissemination of the result of PIDRA and SPFS should be encouraged and replicated in other areas. In the era of decentralization, regional government are expected to have the capability to allocate fund from regional budgets, in order to achieve sustainable food security for all their communities.

4.1.3 Poverty alleviation programme

There are some programme related to poverty alleviation, i.e. Rice for the poor programme; Direct cash transfer programme; Intensive labor programme; Programme to empower small and medium enterprises; Project to up-grade income small farmers and fishermen; and ather empowerment programme such as: Programme to raise income of prosperous families; Presidential decree on special programme for backward villages; Programme to develop prosperous families; Programme to provide supplementary food to school children; Social security net programme; and Poor farmers income improvement trough innovation project. Almost all poverty alleviation programme launched by the government are momentary and curative in nature, and considered the poor as an object, not as a subject of development. The form of aid provided, whether in the form of soft loans, revolving credits, cash aids, or food aid, has not solved the poverty problems. In general, programmes that have been considered successful have been those that developed infrastructural facilities such as road, bridges, irrigation channel, clean water, and so on. Providing the people with soft and simple

credit procedure along with the development of infrastructure and give appropriate support to investor to venture into agro industry in rural area is more effective.

4.1.4 Programme for food-insecure household

There are several programme related to food insecure household, i.e. Community food ban; Food and non food social security net programme; Delayed selling system; Developed of local food programme; Yard utilization programme; and Empowerment of food-insecure area. In short term, various aid programme to assist food-insecure household will still be necessarily provided as household empowerment. Close coordination in the handling of extraordinary cases using appropriate mechanism is required so that food aid for food insecurity household is not lost or overlapping. In the long term, preventive measures such as the introduction of an Integrated Perspective Disaster Risk Management Team for development should be developed, specifically for the development of food security. Based on the spirit of decentralization various central government programmes to empower food-insecure household have to become regional programme with participative planning and have sufficient funding support from regional government. With greater regional government support and participation, programme already initiated and running stand a better chance of sustainable success.

5. Developing A Strategy For Improving Nutrition

5.1 Ensuring policy and programm related to food and consumption by revising previous act no. 7/96 on Food number into act no.18/12

Food Law No. 18/2012 defined Food Security as a situation when “individual” at all times, have physical, social and economic access to sufficient, diversified, safe and nutritious food that meets his/her dietary needs, food preferences and religious believes for an active and healthy life. Term of food security has been revised, from sufficiency food for household level into sufficiency food for individual. the change of the term must be followed with national policy and action on food security, furthermore the new food law also describe the ultimate goal (on article 3) explicitly to fulfill (one of) basic human needs which provide benefit with just, even, sustainable, based on food sovereignty, food self-reliance, and food security. Food law has several objective to be achieved, namely: 1) To increase capacity of national food production; 2) To provide diversity of food commodities which are safe, quality, and nutritious; 3) To create food adequacy, mainly for staple food with affordable prices; 4) To increase food availability for all population, especially for food insecure community; 5) To increase value added and competitiveness of food commodities in domestic and international markets; 6)To increase knowledge and awareness of community on food safety, quality, and balance nutrition; 7) To increase welfare of farmers, fishermen, and small & medium enterprises (SMEs) in food related activities; 8) To protect and enhance national food resource potentials.

Food law no 18/2012 also describe the element of food security. Availability aspect including: Domestic production, National food reserve, Export & import, Diversification base on local resources, Handling of food crisis. Moreover element on Food Accessibility: Distribution, marketing and trade, supply and price stabilization, food aids, and utilization aspect comprise: consumption, Food diversification, nutrition improvement. The issuance of food law will be followed of subsequent issuance of government regulation, Presidential Regulation or Ministry regulation.

5.2 SUN Movement

Indonesia has committed to achieve target Post-2015 Development Agenda on the High-Level Panel Meeting. Post-2015 Development Agenda still focus on reducing poverty, Food security and good nutrition, access to water and sanitation, etc. For food and good nutrition agenda, Indonesia Government has accelerated efforts towards the reduction of under-nutrition, under the scope of the National Movement Nutrition Awareness and the Global Scaling Up Nutrition (SUN) Movement, the First 1,000 Day of Life Movement or 1,000 Hari Pertama Kehidupan (HPK) has been launched in Indonesia.

There are three key elements of the Movement: (i) Actions at the national level require strong leadership and they should be based on evidence and capacity to deal with nutrition problems; (ii) Implementation of evidence-based and cost-effective interventions; (iii) Use of a multi-sectoral approach that includes integrating nutrition in related sectors and using indicators of under-nutrition as one of the key measures of overall progress of all sectors such as food security, social protection, health, education, water and sanitation, gender equality and good governance.

Specific nutritional interventions and sensitive nutritional intervention are needed specifically intended to the group of 1000 Days of Life. These activities are generally undertaken by the health sector, such as immunizations, supplementary feeding of pregnant mothers and growth monitoring of under-five children in Posyandu (*Integrated Service Post*), supplement of iron-folate tablets to pregnant mothers, promotion of Exclusive Breastfeeding, Complementary. The combined impacts of specific and sensitive activities are ("sustainable") and long-term. Some of the activities include clean water supply, sanitation facilities, poverty reduction, food security and nutrition, food fortification, nutritional education and IEC, health education and IEC, gender equality, and others.

As apart of International and National commitment to accelerate action plan to improve nutrition, particularly related to Scaling Up Nutrition (SUN) Movement government need the involvement and support of other stakeholders, such as the development partners, NGOs, universities, professional organizations, and community organizations. Government of Indonesia has issued Presidential Regulation No 42/2013 concerning National Movement on Nutrition Improvement Acceleration. This regulation is a part of National Movement Nutrition Awareness and the Global Scaling Up Nutrition (SUN) Movement which has the main focus on : 1) increasing the commitment of the stakeholders to give protection and fulfillment of the community nutrition; 2) improvement of the nutrition program management through developing sectoral coordination; 3) strengthening the direct and indirect nutrition programs. Considering that the magnitude of nutrition problems has widespread and multidimension effects, for that reason, to enhance the implementation of this regulation Coordinating Ministry of People's Welfare will take the lead as stipulated by this regulation

5.3 Future Direction of Food Security and Poverty Alleviation

The achievement of food security development and poverty alleviation has a direct link with agriculture and rural development. The main problem of food security is not food availability, but the purchasing power of disadvantage people. Beside the issue of decentralization and the optimal approach to poverty reduction, the following problems are faced by developing countries (including Indonesia) in achieving agriculture and rural development (Rusastra et al., 2008): (a) an imbalance in capacity of, and the asymmetric implementation of trade liberalization, low commitment from developed countries and a decreasing trend in overseas development assistance in agricultural sector; (b) the impact of the fuel energy crisis on the food crisis, and the conflicting policies within developing countries to deal with the food crisis; (c) low agricultural production capacity, resulting the saturation of technology, degradation of land quality, lack of agricultural incentive and infrastructure, all of which have led to decreasing total factor productivity and deceasing competitive advantage of

agricultural commodities; and (d) low capacity of poor people and poor access to employment and economic activities that generate a source of income.

Pertaining to the food security programme, several successful programmes such as Participatory Integrated Development in Rainfed Areas (PIDRA), the Special Programme for Food Security (SPFS), and the Desa Mandiri Pangan (Village Food Security Programme) should be replicated. The provincial government should allocate special funding and prepare policy support for disseminating and adopting these productive programme in order to accelerate agricultural and rural development. To support regional development, local governments are necessary because they give special attention to the programme for accelerating food diversification, which is strategic in nature and has a high likelihood of success. Because the capacity of the rice economy has been exhausted, a programme for food security which focus on non-rice commodities has important potential as a 'pro poor growth strategy'.

To support the alleviation programme, the government has initiated a partial sectoral programme in addition to the social safety net and unconditional cash transfer programme. However, this programme did not adequately improve the livelihood of the poor. The respective approach must be adjusted to multi-sector community development as described as follow (Mubyarto, 2002; Adiyoga and Herawati, 2003): (a) to acknowledge the capacity and social caputl of the poor; (b) to make the poverty reduction agenda relevant, contextual and sustainable by considering the characteristics of the poor and involving them in decision-making processes; (c) to encourage and support transparent and accountable poverty reduction activities at the community levels; and (d) to reposition the tole of poverty reduction-related parties from development agents to community empowerment facilitators.

In addition to the reorientation of the poverty reduction approach, Rusastra and Bottema (2008) proposed a strategy based on: (a) optimality and synergetic economic activities and programme to support economic growth , empowerment and a social safety net system; (b) a combination of conditional direct cash transfer with compulsory basic education programmes and family health and nutrition programmes that pasticular focus on children under five years; (c) the implementaion of conditional direct cash transfer in the regions that have applied holistic community empowerment and development programme; and (d) strengthening the capacity, authority and mandate of regional institution dealing with enhancing food security and poverty reduction.

To address food security and poverty reduction issues, there is a need to widen and diversify agricultural and rural development policy by considering the following dimensions: (a)improving the production capacity, agricultural and rural infrastructure; (b) increasing the availability and distribution of productive asset, and improving access to them, particularly access to land for marginal farmers; (c) improving agricultural productivity and market system; (d) promoting the diversification of agricultural and non-agricultural economic activities and employment; (e) acknowledging the participation of the private sector in research and development, infrastructure development, and market efficiency improvement , and enhancing this participation; and (f) speeding up structural transformation through balanced rural-urban investment and development to bring about the convergence of levels of agricultural and non-agricultural productivity.

More comprehensively, Rusastra and Taco (2008) suggested at least there are five major aspect of poverty and hunger alleviation policies should be taken into account, i.e.: macroeconomic policy, the impact of globalization, mainstreaming informal employment and legal empowerment of the poor, improving the capacity of poor people and their access to the economy, and taking a strategic approach to poverty and hunger reduction. In specific way the recommended policies for accelerating the achievement of the first MDG target are as follows: (a) focus on agricultural and rural development complemented with effective

implementation of poverty alleviation programme; (b) eliminate the negative impact of trade liberalization by minimizing the transition impact, implementing pro-poor trade policy, investing in R&D, and considering a fair, open and rule-based trade system; (c) enhance the role of informal sector, gender mainstreaming and legal empowerment of poor people; (d) improve poor people's capacity by improving education and health sector that are complemented by improved access to wide economic opportunities; and (e) accelerate structural transformation and inclusive growth of agricultural and rural development.

6. Conclusion

Since The 1992 International Conference on Nutrition (ICN), the Progress in establishing food security, reducing hunger and malnutrition has reached unexpected result. Global and national economic crisis in 1997 and 2008 prolong the severity of hunger and malnutrition. However, Indonesia has demonstrated effort and hard work to alleviate hunger and reduce malnutrition. Many progress had been achieved on food security and agriculture sector for instance increasing food availability noticed by self sufficiency on staple food, and improvement on nutrition education which change 50's slogan "basic four" into balance diet. Health and nutrition sector also demonstrated good improvement, were marked by the improvement of community nutrition status, and clean and healthy life style were increasing. Moreover various regulations regarding food security, health, nutrition and food safety has been issued to enhance and accelerate improvement on food security, and nutrition.

In the 90s, agriculture, food and nutrition are among the top program priority of Indonesian government. In the new millenium, food and nutrition security policy also become part of National Long-Term Development Plan (RPJPN 2005-2025) promulgated through Law 17/2007. In the imlementation plan, the government develop action plan to accelerate better food and nutrition security achievement up to household and individual level. The National and Regional Plan of Action to strengthen food and nutrition security have been developed. As part of international commitment on High-Level Panel of Eminent Persons on the Post-2015 Development Agenda, Indonesian government has issued several policy such as Public Policy of Food Security (KUKP), the National Plan of Action and the Regional Plan of Action for Food and Nutrition (RAN/RAD-PG), National Movement Nutrition Awareness and the Global Scaling Up Nutrition (SUN) Movement, the First 1,000 Day of Life Movement which was directed by Presidential Regulation No 42/2013, and even change the Food Law # 7/1996 to new Food Law # 18/2012 to not only strengthennational food security, but also to achieve food self suficiency and food sovereignty to achieve better food and nutrition security at national, community, household and individual level.

Progress have been achieved on food security and agriculture sector, particularly in terms of increasing food availability as noticed by self sufficiency on staple food, and increased calorie per caput availability exceeding the Recommended Dietary Allowances (RDA) for energy. Health and nutrition sector also demonstrated good improvement. For two decades, nutritional status tends to be improved, as indicated by decreasing of the prevalence of malnutrition among children under five. The improvement was occured not only in terms of alleviating macro nutrient deficiency problems, but also in decreasing micro nutrient deficiencies, particularly vitamin A deficiencies (VAD), iron deficiency anaemia (IDA), and Iodine Deficiency Disorders (IDD). Integrated and complementary strategies to combat macro and micro-nutrient deficiencies were implemented in some extent although still requiring a stronger effort to accelerate the reduction of malnutrition problems. Complementary strategies that are implemented at present consisted of food diversification program through balance diet approach including improving of food safety; providing supplementation for certain target groups, particularly to control VAD and IDA; and food fortification for certain food vehicle. At present salt iodization and iron fortification of wheat flour have been mandated, while vitamin A fortification in palm oil will follows, while iron

fortification on rice for the poor (RASKIN) is under the pilot project.In complementary with those action, various regulations regarding food security, health, nutrition and food safety have been issued to enhance and accelerate improvement on food security, food safety and nutrition status of the community.

Despites of its significant improvent in the last two decades, Indonesia still facing challanges in food and nutrtion security which are in general covering the following problems: 1) import dependency of some food commodities (particularly soybean, sugar, dairy products, meat); 2) low quality of diet among middle-lower income people as indicated by low food diversity score or disreable dietary score (DDP) due to low intake of vegetables, fruits, animal food and soybeans among the general people which is sucpected to be related to VAD, IDA, IDD and other micronutrient deficiencies; 3) presence of double burden malnutrition problems, namely under nutrition (particularly stunted) and over nutrition (obesity) at the same time, and even it can be occured in the same household or even at same individual in the long run; 4) transient and in fewer cases chronic food insecurity are remained problems in particular remote areas due to poor economic access, food distribution barier and/or food production failure caused by weather anomaly; and 5) relativele un-integrated and fragmented policy and programs in food and nutrition security and poverty alleviation strategy, although big efforts have been done to bring them integratedly.

Since food insecurity and malnutrition is a multidimension and multi sectoral problems, ccomprehensive multisector solutions are needed. Coordination and cooperation between food, agriculture, health and other sector policies, and stakeholders are needed to improve national and global nutrition. Although these are not a brand new approach, however some countries have reach a big success in combanting malnutrition through and integrated-multisectoral and multidisciplinnary aproach.

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