

Philippine Nutrition Facts and Figures 2013

8th National Nutrition Survey Overview



**Food and Nutrition Research Institute
Department of Science and Technology
Bicutan, Taguig City, Metro Manila**



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This report provides an overview of the 8th National Nutrition Survey: Philippines, 2013 undertaken by the Food and Nutrition Research Institute, Department of Science and Technology (FNRI-DOST).

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FOREWORD

Believing that valid assessment of the nutrition situation is the foundation on which effective interventions can be built to alleviate hunger and reduce the number of undernourished people, the Food and Nutrition Research Institute of the Department of Science and Technology (FNRI-DOST) tirelessly conducts the National Nutrition Surveys (NNS). This effort is in response to the Institute's mandate of undertaking research to define the citizenry's nutritional status.

Over the years, the NNS has evolved from a focused assessment of the Filipino's nutritional status, to include tracking progress towards the achievement of Millennium Development Goals and eradication of hunger, reduction of child mortality and the improvement of maternal health through Scaling-Up Nutrition program.

The NNS is among the Department's key services to the nation which provides data and information for policies, program and practice, in both the public and private sectors. Our food and nutrition scientists' dedication and commitment to the Department's principles of excellence, relevance, cooperation and cost-effectiveness have made possible the timely release of these results despite of all the natural and man-made struggles of the survey personnel such as the typhoons, earthquake, and armed conflicts.

From the first round of the NNS conducted in 1978, the succeeding surveys have been adapted according to the demands of the changing times. The 2013 NNS, being considered as the prime and most comprehensive survey to date, comprised nine major components, namely: Anthropometry, Biochemical, Clinical and Health, Dietary Consumption (Household and Individual Level), Food Security, Government Program Participation, Infant and Young Child Feeding Practices, Maternal Health and Nutrition and Socioeconomic. Having this in mind, the 2013 Facts and Figures has been formatted and packaged into several volumes or modules for easy reading and better appreciation of the results.

We hope that the 8th NNS Facts and Figures will serve as a source of information in preparing analyses and developing initiatives that stand to benefit our countrymen, especially poor people. We also hope that the information contained herein will facilitate nutrition and health policies and programs that may need to be developed, revisited, revitalized or strengthened. The same data is a reflection of how well-nourished the Filipino population is and how far programs and policies have reached the people.

As we have stressed in several dissemination fora, the government cannot solve the malnutrition problem alone. Let us join hands in combating the problems of malnutrition. We must ensure that

the people who are nutritionally vulnerable must partake fully in the gains that our country achieves. We must see to it that our initiatives are not just small and short-lived advances towards nutritional improvement, but these must respond to current challenges and enough to prepare for any forthcoming crises.

Finally, this book, along with our numerous R&D programs and S&T projects is an offshoot of a strengthened collaborative effort between national and local governments, international assistance agencies, private sector, the food industry and non-governmental organizations in ensuring that our children of today may receive the best possible health they may have today and in the future.

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LIST OF ACRONYMS

4Ps	Pantawid Pamilyang Pilipino Program
AP	As Purchased
AP_Ret	As Purchased at Retail
AR	Anthropometric Researcher
ARMM	Autonomous Region in Muslim Mindanao
ATC	Assistant Team Coordinator
BAC	Bidding and Awards Committee
BASULTA	Basilan, Sulu and Tawi-Tawi
BFAD	Bureau of Food and Drug
BMI	Body Mass Index
BR	Biochemical Researcher
CALABARZON	Cavite, Laguna, Batangas, Rizal and Quezon
CAR	Cordillera Administrative Region
CCT	Conditional Cash Transfer
CDC	Centers for Disease Control Prevention
CGS	Child Growth Standards
CLR	Clinical Researcher
DBP	Diastolic Blood Pressure
DOH	Department of Health
DOST	Department of Science and Technology
DR	Dietary Researcher
EA	Enumeration Area
e-DCS	Electronic Data Collection System
EHCP	Essential Health Care Program
FAO	Food and Agriculture Organization
FBS	Fasting Blood Sugar
FCL	Food Composition Library
FCS	Food Consumption Survey
FFQ	Food Frequency Questionnaire
FNRI	Food and Nutrition Research Institute
GIDA	Geographically Isolated and Disadvantaged Areas
GP	Government Program Participation
HDD	Household Dietary Diversity
HFA	Household Food Access
HFCS	Household Food Consumption Survey
HFIAS	Household Food Insecurity Access Scale
HKI	Hellen Keller International
HR	Health Researcher
ICCIDD	International Council for the Control of Iodine Deficiency Disorders
IDA	Iron Deficiency Anemia
IDD	Iodine Deficiency Disorders
IFCS	Individual Food Consumption Survey
IP	Indigenous People

IYCF	Infant and Young Child Feeding Practices
LCE	Local Chief Executive
LFS	Labor Force Survey
MDG	Millennium Development Goal
MIMAROPA	Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon and Palawan
MNAO	Municipal Nutrition Action Officer
MST	Mobile Survey Team
MTL	Mobile Team Leader
NAMD	Nutritional Assessment and Monitoring Division
NCD	Noncommunicable Disease
NCEP ATP	National Cholesterol Education Program Adult Treatment Panel
NCHS	National Center for Health Statistics
NCR	National Capital Region
NNC	National Nutrition Council
NNS	National Nutrition Surveys
NP/NL	non-pregnant/ non-lactating
NSO	National Statistics Office
NSTP	National Science and Technology Plan
PC	Provincial Coordinator
PDS	Personal Data Sheet
PhilHealth	Philippine Health Insurance Corporation
PNAO	Provincial Nutrition Action Officer
PPAN	Philippine Plan of Action for Nutrition
PSA	Philippine Statistics Authority
PSOC	Philippine Standard Occupational Code
PSTD	Provincial Science and Technology Director
PSU	Primary Sampling Unit
PWD	Person With Disability
RENI	Recommended Energy and Nutrient Intake
RMT	Registered Medical Technologist
RNPC	Regional Nutrition Program Coordinator
RST	Regular Survey Team
SA	Science Aide
SBP	Systolic Blood Pressure
SCDC	Senior Citizen discount card
SES	Socioeconomic Survey
SHS	Secondhand Smoke
SMS	Short messaging service
SNS	Social networking sites
SOCCSKSARGEN	South Cotabato, Cotabato, Sultan Kudarat and Sarangani, plus General Santos City
TC	Team coordinator
TL	Team Leader
ToR	Terms of Reference
UIE	Urinary Iodine Excretion

UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VAD	Vitamin A Deficiency
WB	World Bank
WC	Waist Circumference
WFP	World Food Programme
WHO	World Health Organization
WHR	Waist-Hip Ratio
WRA	Women of Reproductive Age

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DID YOU KNOW?

A. Anthropometry

Anthropometry is the measurement of the body and is used to assess the nutritional status of the individual. There are three forms of undernutrition among children: *acute malnutrition* as indicated by wasting or extremely being thin which is a result of recent rapid weight loss or a failure to gain weight due to acute infection and/or *inadequate* intake; *chronic undernutrition* as indicated by stunting, developed over a long period of time as a result of inadequate nutrition or repeated infections or both; and *underweight* which is due to either wasting or stunting or both. Undernutrition (chronic energy deficiency) among adults reflects recent conditions and can lead to increased risk of morbidity and mortality.

Preschool-Age Children, 0-5.0 years old (0-60 months)

- Two out of 10 (19.9%) were underweight and this was observed greatest among children aged 3 years. The regions of MIMAROPA and Western Visayas had the highest proportions of underweight children at 27.5% and 26.0, respectively.
- From 2003 to 2013, no significant change was observed in the prevalence of underweight among the preschoolers.
- Three out 10 (30.3%) were stunted. It was noted that children started to be stunted at the age of one year and the prevalence peaked among the 2 to 3 years old. Regions with the highest proportions of stunted children were Bicol (39.8%), ARMM (39.0%), Zamboanga Peninsula (38.7%), Western Visayas (36.9%), Eastern Visayas (36.8%), SOCCSKSARGEN (36.3%) and MIMAROPA (35.6%).
- There was a significant decline in the prevalence of stunting from 2011 to 2013.
- Eight out of 100 (7.9%) children were wasted. The highest prevalence was noted in the regions of Ilocos and MIMAROPA both at 9.8%.
- The proportion of wasted preschoolers was noted to be increasing from 2005 nutrition surveys until the 2013.
- Five out of 100 (5.0%) were overweight-for-height, with highest prevalence noted in the regions of CALABARZON and NCR, with 6.6% and 6.5% prevalence, respectively.
- The double burden of malnutrition was clearly seen among these group children, particularly among 0-5 months old.

- The Millennium Development Goal (MDG) of reducing by half the prevalence of underweight among 0 to 59 months old children from the baseline of 27.3% in 1990 to 13.6% in 2015 would seem not achievable. The Philippines fell short of the target by 6.4% as recorded by the 2013 NNS at the rate of 20.0%.

Children 5.08-10.0 years old (61-120 months)

- Three out of 10 children, 5 to 10 years old were underweight and stunted. The proportions of these children significantly decreased ($p\text{-value}\leq 0.05$) from 32.0% for underweight and 33.6% for stunting in 2011 to 29.1% and 29.9%, respectively. Meanwhile, wasting and overweight/obese prevalence continued to increase over time.
- Among the regions, MIMAROPA (40.0%) and Zamboanga Peninsula (44.3%) still had the highest prevalence of underweight and stunting respectively. Moreover, NCR (16.6%) and MIMAROPA (12.6%) also had the highest prevalence of overweight and wasting, respectively.

Adolescent Children, 10.0-19.0 years old (121-228 months)

- Three out of 10 adolescents (31.6%) were stunted. There was a significant decrease in the prevalence from 35.7% in 2011 to 31.6% in 2013 ($p\text{-value}\leq 0.05$).
- Twelve out of 100 adolescents (12.4%) were wasted, but this prevalence was a little bit lower than that in 2011 at 12.7%.
- For the period of ten years, overweight/obese prevalence continued to increase from 4.9% in 2003 to 8.3% in 2013.
- Among the regions, wasted adolescents were seen more in MIMAROPA at 16.2%, while stunting was more predominant in ARMM (42.6%) and SOCCSKSARGEN (41.9%). NCR was recorded to have the most number of overweight/obese adolescents at 14.7%.

Adults, 20.0 years old and over

- The proportions of CED adults were still the same at 10.0% in 2013 and in 2011, although a decreasing trend was observed over time.
- The proportions of overweight/obese almost doubled from 16.6% to 31.1% in the twenty year period from 1993 to 2013.

- Among the regions, the Western Visayas had the highest prevalence of CED at 13.9%, followed by ARMM at 13.0%. NCR, on the other hand, had the highest proportions of overweight (29.8%) and obese (10.1%) adults.
- More females were observed to be android obese than males. Using the waist circumference alone and WHR, android type of obesity were four and eight times, respectively, more common among female adults than their male counterpart.

Pregnant and Lactating Women

- The proportions of nutritionally-at-risk pregnant women were almost the same in 2011 at 25.0% and 24.8% in 2013. However, more nutritionally-at-risk pregnant women were noted among pregnant teenage girls at 37.2%.
- Among lactating mothers, the proportions of CED/underweight were slightly higher at 12.5% in 2013 than in 2011 at 11.9%, while the proportions of overweight to obese lactating mothers increased from 17.7% in 2011 to 21.7% in 2013.

Birthweight of Young Children, 0-3.9 years old

- Based on both birth records and recall by mothers, the prevalence of low birth weight among children 0-47 months old was 11.5% and with a mean weight of 3,020.5 grams. LBW was common among girls (12.3%) than boys (10.8%). Children with low birth weight were observed highest in ARMM (18.0%) and lowest in Northern Mindanao (6.2%)
- Overall, LBW prevalence was lower at 11.5% in 2013 than in 2011 at 15.9%.

B. Biochemical Component

Anemia

Anemia is a condition where the body does not have enough healthy blood cells to carry adequate oxygen to the tissues. This is determined by measuring the hemoglobin levels in the body.

- Overall, there was a significant decrease in the prevalence of anemia among Filipinos from 19.5% in 2008 to 11.2% in 2013.
- The most at risk groups were infants 6 months to 11 months old. Four out of 10 infants (40.5%) were anemic and are still considered as a “severe” public health problem.

- One out of 4 (24.6%) pregnant women was anemic and the problem is considered as “moderate” public health significance.
- About two out of 10 lactating mothers (16.7%) were anemic and this prevalence is considered “mild” public health significance.
- Among the elderly individuals, one out of 4 male (23.0%) and two out of 10 female elderly individuals (19.1%) were anemic and the problem is considered as “moderate” public health significance.

Thalassemia

Thalassemia is a genetic blood disorder where individuals who have the disease are not able to produce sufficient hemoglobin which causes severe anemia. There are two types of thalassemia, alpha which is considered as a very serious disease in which severe anemia starts even before birth. Beta thalassemia or Cooley’s anemia is also a serious illness, but symptoms start to appear before two years of life.

- Two (2) out of ten (10) anemic Filipinos, 6 years old and over in the National Capital Region were found to have α thalassemia while about 5% had beta type of thalassemia.

Iodine Nutrition

Iodine status of the population is best measured by urinary iodine excretion or UIE that reflects current iodine status of specific population groups.

- Population groups with adequate iodine intake based on median UIE levels ranging from 100 to 199 $\mu\text{g/L}$ were school children, 6 to 12 years old at 168 $\mu\text{g/L}$, adolescents at 134 $\mu\text{g/L}$, and adults, 20 to 59 years old at 116 $\mu\text{g/L}$.
- The elderly and lactating mothers were among the population groups with median UIE below 100 $\mu\text{g/L}$ or with insufficient iodine intake. Their iodine status is categorized as with “mild iodine deficiency”.
- The UIE levels of pregnant women at 105 $\mu\text{g/L}$ are also considered insufficient being below 150 $\mu\text{g/L}$.
- Among regions, Zamboanga Peninsula had the lowest median UIE level for all population groups, namely, school children at 68 $\mu\text{g/L}$, adolescents at 76 $\mu\text{g/L}$, adults, 20 to 59 years old

at 66 µg/L, the elderly at 43 µg/L, pregnant women at 51µg/L and lactating mothers at 48 µg/L.

- Comparing the 2013 median UIE levels with the 2008 median UIE levels, the increase or decrease was not statistically significant for all population groups examined.

Vitamin D Status

The term “Vitamin D” refers to several different forms of this vitamin and only two are important for the human body: vitamin D2, which is made by plants, and vitamin D3, which is made by human skin when exposed to sunlight. The main function of Vitamin D is to maintain normal blood levels of calcium and phosphorus for improved bone health, decreased fractures and protection for osteoporosis. (Mayo Clinic)

- Vitamin D status of adults, 20 yrs and over from NCR, and the provinces of Cebu, Davao del Sur, Benguet and Cagayan was determined using total serum Vitamin D [25-OH (D)]. Overall, the mean Vitamin D level of adult participants from selected areas were 107.8 ± 3.6 nmol/L for Cagayan (highest), 98.8 ± 2.4 nmol/L for Davao, 76.2 ± 0.9 nmol/L for NCR, 85.7 ± 2.0 nmol/L for Cebu and 73.3 ± 1.3 nmol/L for Benguet (lowest).
- The proportion of adults, 20 years and over with deficient and insufficient levels of vitamin D [25-OH (D)] was found to be highest in Benguet at 60.3% and lowest in Cagayan at 19.5%.

Vitamin A Status

Vitamin A status of the population as determined by serum retinol level may reflect the severity of vitamin A deficiency as a public health problem. Recent data on serum retinol levels will be reported in a separate module which will be published in 2016.

Zinc Status

Assessing the prevalence and severity of zinc deficiency in the population is crucial in appropriate targeting of zinc intervention programs. Population’s risk of zinc deficiency can be better assessed by serum zinc concentration which is considered as a useful biomarker. The last update on zinc deficiency in the Philippines was reported in 2008 at more than 20% on some population groups. Latest results based on NNS conducted in 2013 will soon be out in another report.

C. Selected Risk Factors to Non Communicable Diseases (NCDs)

Risk factors commonly shared by non-communicable diseases or lifestyle-related diseases, include tobacco use, harmful use of alcohol, physical inactivity and poor diet. Physiologic risk factors like elevated fasting blood glucose and blood pressure, dyslipidemia, and obesity are also important factors in assessing the individual's risk in developing NCDs. Risk factors to NCDs are emerging health problems brought about by consumption of foods high in fat, high in sugar, and high in salt, coupled with sedentary lifestyle and stressful environment.

- Current smoking among adolescents, 10.0 to 19.9 years old was more common among boys (12.1%) than girls (1.2%). Moreover, the proportion of smokers was higher among the 18.0 to 19.9 years old at 20.1% than those at the 16.0 to 17.9 years old at 12.2%.
- Smoking prevalence among children, age 10.0 to 19.9 years was highest in Central Luzon (9.9%) and lowest in the Davao region (3.9%).
- Exposure to secondhand smoke also increases an individual's risk to lung cancer, respiratory diseases and cardiovascular diseases. Four (4) in ten adolescents were exposed to secondhand smoke at least once a week.
- The proportion of adolescents who drink alcoholic beverages decreased from 21.7% in 2008 to 18.6% in 2013. The proportion of boys who currently drink (24.0%) was almost twice as the proportion of girls at 12.7%.
- Alcohol drinking among adolescents was highest in the urban areas (20.6%), among the richest quintile (21.8%) and among the regions of Bicol (24.5%), CALABARZON (23.6%) and NCR (23.5%)
- Adolescents, 10.0 to 19.9 years old, had a mean SBP of 99.0 mm Hg and mean DBP of 64.5 mm Hg.

Adults (20 years and over)

- Android type of obesity as measured by high waist circumference (WC) and high waist-hip ratio (WHR) were found to be higher among female adults at 23.1% and 63.2%, respectively than their male counterparts at 3.8% and 8.0%, respectively.
- Overall mean systolic blood pressure (SBP) for adults, 20.0 years and over was 119.8 mm Hg, with higher mean SBP noted among adult males at 122.3 mm Hg than adult females at 117.8 mm Hg.

- Based on single visit BP measurement, a higher proportion of Filipino men (25.1%) had high blood pressure than women (19.9%). Hypertension prevalence decreased from 25.3% in 2008 to 22.3% in 2013.
- More hypertensive adults were noted in the urban areas (22.4%) and among both the rich and the richest wealth quintiles at 23.7%. CAR (26.7%) and Ilocos region (25.8%) had higher proportions of hypertensive adults than other regions of the country.
- High Fasting Blood Glucose (FBG) prevalence continues to escalate from 3.4% in 2003 to 5.6% in 2013, among adults, 20.0 years and over. A higher proportion of adult males (10.9%) had impaired to high FBG than adult females (9.1%).
- Adult individuals with high FBG were common in the urban areas (6.4%) and among the richest wealth quintile (8.3%).
- Among the regions, Central Luzon had the highest prevalence of high FBG at 7.2%, followed by CALABARZON (6.7%) and NCR (6.5%).
- Dyslipidemia was also common among adults, 20.0 years old and over. Almost half were found to have borderline to high total cholesterol levels (47.2%), borderline to high LDL-cholesterol (47.5%) while nearly three fourths (71.0%) had low HDL-cholesterol. More than one third (38.7%) had borderline to very high triglyceride level.
- The prevalence of smoking among adult Filipinos went down from 31.0% in 2008 to 25.4% in 2013. The decrease was partly from people who stopped smoking and mostly from people who avoided smoking.
- Among adults, the prevalence of current alcoholic drinkers almost doubled from 26.9% in 2008 to 48.2% in 2013. A higher proportion of males (69.8%) and only 28.7% of females were current drinkers. Higher proportions of drinkers were observed in age groups, 20 to 29.9 (53.3%) and 30 to 39.9 (52%).
- Alcohol drinking was also highest in urban areas (49.1%), among the richest (49.3%) and a large proportion of adults from Eastern Visayas (69.5%).
- Among regions, ARMM had the lowest proportion of alcohol consumers at 17.0%, however, it was noted that they ranked number one at 73.9% among the top four regions who were engaged in binge drinking.
- The majority (56.2%) of Filipino adults were engaged in binge drinking or heavy episodic drinking of alcoholic beverages and it is more common among the younger age groups, 20.0 years to less than 30.0 years old at 63.0%.

- Among the regions, ARMM had the highest proportions of binge drinkers at 73.9%, followed by Bicol at 73.0%. It was more in the urban areas (56.6%) and among individuals belonging in the middle quintile (61.2%).
- There were more insufficiently physically active among female adults (52.9%) than male adults (37.0%).
- Adults in the urban areas and among the richest quintile engaged in less physical activity at 49.8% and 56.3%, respectively. More than half of adults in Central Visayas (55.0%) and CALABARZON (54.5%) were insufficiently physically active.

D. Dietary Component

Updates on the prevailing dietary status of Filipino households and across population groups are vital for shaping food and health guidelines, planning and evaluating programs, understanding consumption patterns for new products, and for forming strategies for health promotion and disease prevention, thus the Dietary Survey Component of the NNS provides information on the quantity and quality of food consumed at the household and their individual members. The food weighing technique was used to measure the intake at the household level while the 24-hour food recall was utilized to determine the consumption at the individual level, for the whole day.

Household (Per capita intake)

- The typical diet of Filipinos is still a combination of rice-vegetable-fish. *Rice*, the staple food is consumed at 290 grams as purchased followed by *vegetables* consumed at 114 grams and *fish and products* at 109 grams. Least consumed was *dried beans, nuts and seeds* at 9 grams per capita per day.
- The proportion of households meeting 100% of energy is about one-third. More households met the Estimated Average Requirement (EAR) for niacin (86%) and protein (63%). The proportion of household meeting the EAR for the rest of the nutrients ranges from 25-35%, except calcium (15%) and iron (9%).
- The most commonly consumed food item was rice (94.8%), the staple food of Filipinos. This was followed by coconut oil (72.6%) and not iodized coarse salt (65.4%). Chicken egg was consumed by more than 1/3 of the households. Most frequently used condiments are soy sauce (36.5%) and monosodium glutamate (31.2%). Both 3-in-1 coffee and instant coffee were consumed by more than 1/3 of the households.

- Total energy contributed by the different food groups is 1810 kcals. *Rice and rice products* were the principal source of energy (55.3%), protein (36.7%), iron (30.7%), thiamin (34.2%) and niacin (42.8%). Aside from *rice and rice products*, protein was also highly contributed by *fish and products* (19.4%), *meat and products* (13.8%) and *poultry* (7.4%).
- Vitamin A was contributed mainly by *meat and products* (25.4%), *poultry* (23.4%) and *vegetables* (14.8%). The highest contributor for calcium was *fish and products* (24.3%). Minor contributors were *vegetables* (16%) and *milk and milk products* (10.4%). Ascorbic acid was mainly supplied by *vegetables* (58.8%) and *fruits* (16.6%).
- Among regions, NCR had the lowest mean one day intake of cereal and products (298 grams) but had the highest mean one day intake of meat and products (96 grams) and poultry (53 grams). Nearly three fourths (72.4%) of the households met the EAR for protein and almost 92% had met the EAR for niacin.
- Cagayan Valley showed the highest mean one day intake of rice and products at 362 grams together with CARAGA. It registered also the highest mean one day intake of sugars and syrups (18 grams). More than one fourth (26.5%) and about 45% of the households had met the EAR for calcium and vitamin C, respectively.
- CAR was noted to be the highest consumers of dried beans, nuts and seeds with mean one day intake of 24 grams. They also had the highest proportions of households that met 100% energy. Moreover, CAR had the highest proportions of households that met the EAR for iron (19.4%), vitamin A (35.4%), thiamin (49.0%), and riboflavin (34.8%).
- CALABARZON had the highest mean one day intake of milk and products (67 grams) and eggs at 22 grams.
- The Bicol region had the highest mean one day intake of fruits (67 grams), fats and oils (22 grams) while Western Visayas registered as with the highest consumption of fish and products with mean one day intake of 142 grams.
- ARMM was recorded to have the lowest mean one day intake of meat and products (16 grams), poultry (9 grams), eggs (10 grams) and milk and products (22 grams). Noted also is the lowest proportion of households that met the EAR for vitamin A (11.7%) and riboflavin (11.2%).
- Urban households had higher intake of meat and products (9.6%), poultry (4.9%), milk and milk products (6.8%) and beverages (3.2%) than their rural counterparts. On the other hand, rural households had higher intake of rice and products (37.4%), corn and products (4.4%), fish and products (13.4%) and vegetables (14.9%) than their urban counterparts.

- As wealth status increased, the proportion of households meeting the Estimated Average Requirement (EAR) of nutrients also increased except for *green leafy and yellow vegetables* where both the mean intake and percent of households consuming decreases with wealth quintile.
- Rice intake was lowest among the richest households (264 grams) and highest among the poor households (309 grams). Corn intake decreased as wealth increased as well as the percent of households consuming it. Increasing wealth increases with a mean intake of cereal products such as bakery products, cakes and the like and the percent of households consuming it.
- Compared with 2008 food consumption data, there was a lower intake of rice, fish, fruits, sugar and syrup and tubers while a higher intake of vegetables, eggs, poultry, meat and its products, milk and its products was recorded in 2013. There was a lower intake of rice and fish while vegetable was higher. Increases were also noted in the intake of milk, eggs, meat and poultry in 2013.
- A decreasing trend was noted since 1978 in the consumption of cereals and products including rice, starchy roots and tubers, sugars and syrups, fats and oils, and fish and products. In contrast, an increasing trend was observed in the intake of milk and milk products, eggs, meat and products and poultry.
- Vegetable intake was noted to be on a decreasing trend, but slightly increased from 110 grams in 2008 to 114 grams in 2013.
- Fruit intake was observed to be on a declining trend, with notable decrease of 13 percentage points from the 54 grams intake in 2008.

Individual Intake

- A typical meal pattern of 6 months to 5 years old children is milk-rice-meat/fish. Rice becomes the staple food among the older population group of school children, adolescents, adults, and the elderly, including the pregnant and lactating women with fish/meat as their usual viand. The elderly and lactating mothers consumed more vegetables than meat while the school children still include milk in their diet.
- *Cereals and cereal products* being the biggest bulk in the diet across age/population groups contributed largely to the intakes of energy, carbohydrates, protein, iron, thiamin, niacin and riboflavin. *Milk and milk products* were the main source of fats, vitamin C, calcium, vitamin A, and riboflavin for younger children 6 months to 5 years old. Meanwhile, the fats and

vitamin A intakes of the other age/population groups were greatly contributed by *fish, meat and poultry*, while *fruits and vegetables* were the major sources of vitamin C.

- Among the population groups, children, 6 months to 5 years old had the highest proportions (23.2%) that met the 100% for recommended intake of energy and for most EAR for protein (76.6%), iron (24.4%), vitamin A (57.4%), vitamin C (43.4%), calcium (28.4%), thiamin (53.2%), and riboflavin (56.1%) while adults had the highest proportion that met the EAR for niacin at 83.1%.
- According to physiologic groups, lactating mothers had the lowest proportions (9.8%) that met 100% of recommended energy and the EAR for protein (13.6%), iron (0.6%), vitamin A (9.3%), vitamin C (9.1%), calcium (5.3%), riboflavin (6.6%) and niacin (61.0%). The elderly population had the lowest EAR for thiamin (15.8%).
- Rice was the top most commonly consumed food item across population groups followed by coconut oil and breads. Chicken egg was the fourth top most across population groups except for the elderly where sugar ranked fourth. Instant noodles, soft drinks, and coffee were all included in the top 30 most commonly consumed food items across population groups.
- There was a significant decrease in the mean one day energy intake (kcal) in 2008 and 2013 Food Consumption Surveys among school children, adolescents, adults, elderly and lactating mothers.
- The energy intake of pregnant women and lactating mothers registered an upward trend from 2003 to 2008 but went down in 2013; meanwhile the opposite was noted for preschool children where a downward trend was observed from 2003 to 2008 and increased in 2013. The energy intake of these population groups remained inadequate.

E. Socioeconomic Status

Socioeconomic status (SES) refers to the grouping of people with similar occupational, educational, and economic characteristics (Santrock, 2004). SES is often measured by combining education, occupation and income. In most surveys, information on direct income is hard to determine, thus the Wealth Index (WI), an indirect method of determining wealth (a proxy indicator for income) is now employed. The Wealth Index (WI) is constructed using household assets and housing characteristics to categorize the households by wealth quintile. SES classification is an important tool in mapping or identifying inequalities between the population groups and the specific nutrition and health outcomes being examined.

Education, Occupation and Employment Status

- Nearly 40% of the study participants had reached up to elementary level of education, 32% with at least high school education and close to 20% had reached at least college level. Less than 10% had no formal education
- One fifth or 20% of the study participants, 10 years old and over were farmers, fisherfolks and forestry workers. A little higher than these groups were laborers and unskilled workers (22.5%)
- Less than 10% of study participants were corporate executives and managers, trade workers, plant and machine operators and assemblers. About 11% were service and shop and market sales workers.
- About 30% had no occupation at the time the survey was conducted, with more than 40% of the unemployed were students and 25% were housekeepers.

Household Characteristics

- More than half of the households (55.8%) were of single-family type of households.
- The majority of the households (89%) lived in a single house or bungalow and with almost all of them had electricity (88.8%).
- The most common vehicle owned by households was the single motor (29.0%) followed by bicycle (18.4%).
- Common gadgets and appliances owned by households were cellular phones/smart phones (75.0%), television (73.9%), and electric fan (66.5%).
- Roofing materials of the houses of households were mostly iron sheets (85.3%); nearly half had strong walls (48.4%) with flooring materials made mostly of plain cement (55.8%).
- Most of the households were living in their own houses (78.8%) but only 48.8% owned the lots where their houses were situated.
- The most common source of drinking water as well as water used for cooking and hand washing were from improved water sources (e.g. piped water into dwelling, tubewell/boreholes, protected dug wells, protected springs, etc.)
- The majority of the households (85.2%) had water-sealed type of toilets.

- Nearly half (48.5%) of the households disposed their garbage through garbage collection services, however, more than one third (36.3%) are burning their garbage.

F. Food Security

Households are considered food secure when at all times they have access to sufficient, safe, nutritious food to maintain a healthy and active life (World Food Summit, 1990). Food security greatly affects the nutritional and health status of the household members. It also serves as a proxy indicator of poverty and their inability to access food.

- An increasing trend was seen in the proportions of households who were food secure over the past twelve years with an average rate of 1.54% annually. The proportions of household who were considered food secure increased from 30.7% in 2011 to 34.1% in 2013.
- Among regions, ARMM experienced food security the least (11.5%) and also had the least varied food intake, consuming only five to eight food groups. It was followed by Eastern Visayas and other provinces in Mindanao. NCR, on the other hand, was considered the most food secure (51.3%).
- The size of the household also affects the food security status; the more members the household had, the less food secure they were.
- The majority of the households consumed different foods that are relatively high in energy density had good quality protein and micronutrients, with an average diversity of nine to ten different food groups.
- Households belonging in the richest quintile had the most diverse diet with a mean score of 10.2 while an 8.7 mean score was noted for the poorest quintile.
- The lowest wealth quintile had the highest proportion of households (60.6%) with “poor” food consumption or less than 28 food consumption score.

G. Government Program Participation

Participation rates in selected programs offered by the government are tools to measure their success and effectiveness. Participation could either be by the entire households or individual members of the households.

Household Level

- About 6 in every 10 (60.6%) households have at least 1 PhilHealth Principal Member. The majority of the PhilHealth members were through sponsorship of the national/local government (36.1%) and those working in private companies (30.8%).
- Almost three fourths of PhilHealth members who were admitted in a health facility availed of the benefits and services. Availment was higher among those members in the rural areas (75.1%) than in the urban areas (71%).
- Among the regions, availment of Philhealth benefits and services was highest in Northern Mindanao (92.4%) and lowest in CALABARZON (60.3%).

Individual Level

- The proportion of children, 12-23 months with complete immunization before the child reaches one year old or the so called as “fully immunized child” was 68.4% for the entire Philippines. Among regions, Ilocos (80.1%) and CAR (82.5%) had higher proportions of “fully immunized child” than in other regions of the country.
- More than three fourths (76.2%) of adults, 60 years old and over have availed of the Senior Citizen Card. Among the regions, Central Luzon had the highest availment at 84.8% and ARMM had the lowest at 32.6%.

H. Maternal Health and Nutrition

A mother's nutritional status at conception, during pregnancy and lactation, plays a key role in determining her health and well-being, as well as that of her child. Poor maternal health is a key factor contributing to major causes of maternal mortality and other pregnancy complications, both for the mother and her baby.

- One out of 4 of pregnant Filipino women (24.5%) was nutritionally at risk of delivering low birth weight babies and other pregnancy complications. This condition was more pronounced among teenage pregnant women at 37.4% than their adult counterpart at 22.6%.
- Higher proportions of nutritionally at-risk pregnant women were seen in Cagayan Valley (33.6%), Bicol (33.0%) and Western Visayas (32.4%) while lower proportions were noted in

Eastern Visayas (12.6%), CARAGA (14.7%) and Central Luzon (16.5%) than among other regions.

- Anemia was seen to be more common among teenage pregnant women (30.6%) than their adult counterpart at 25.4 %. Moreover, there were more anemic pregnant women living in the urban areas (30.3%) than in the rural areas (21.8%). No definite pattern for anemia was observed by wealth quintile as it was commonly seen in all wealth quintiles.
- A higher proportion of teenage pregnant women tend to delay their first prenatal care (39.2%) and do not take micronutrient supplements (21.5%) than adult counterparts at 30.9% and 15.2%, respectively.
- More pregnant mothers (93.9%), 20 years old and over, received prenatal care than teenage pregnant mothers (90.5%).
- Height and weight measurements and blood pressure monitoring were the most availed prenatal services at 95.1% and 97.6%, respectively.
- During the prenatal check-up, the highest proportion of mothers who were monitored for weight and blood pressure measurements were in Western Visayas at 99.5% and 99.8%, respectively and in the NCR at 97.7% and 99.4%, respectively. NCR also had the highest proportion of mothers who received both blood tests (76.0%) and urinalysis (81.4%) while ARMM had the lowest percentage for both services at 21.0% and 24.9%, respectively. Moreover, NCR (67.8%) had the most mothers who had undergone ultrasound while Zamboanga Peninsula (18.7%) had the least.
- About 4 in every 5 mothers (84.5%) claimed taking any vitamin or micronutrient supplementation while pregnant. By region, Western Visayas (91.3%) had the highest proportion of mothers who took micronutrient supplements while ARMM (60.2%) had the lowest.
- In terms of birth delivery with their youngest child 0-36 months, home delivery and those assisted by a traditional birth attendant at delivery was higher among older mothers with low educational attainment, not gainfully employed, with three or more children and living in rural areas. A higher proportion of mothers on the richest quintile have the right timing of prenatal care, had delivered in a health facility and with caesarian delivery.
- There were more first time mothers who gave birth in public hospital (44.3%) and private hospital/clinic/lying-in (29.2%) than their counterparts with more than three children at 34.5% and 14.4%, respectively. Mothers who gave birth at home were highest among those with more than 3 children at 30.7%.

- About 9 in every 10 mothers (90.2%) were assisted by skilled health professionals during their childbirth. Across regions, the highest proportions of delivery assisted by skilled health professionals were noted in Ilocos (96.4%), Central Luzon (96.2%) and NCR (95.0%) while the lowest proportions were seen in ARMM (72.1%), Zamboanga Peninsula (75.5%) and MIMAROPA (76.0%).
- About 9 in every 10 mothers (87.2%) delivered their babies normally while about 1 out of 8 (12.8%) gave birth through caesarean section. A higher proportion of caesarean section delivery was seen among mothers who had at least a college education, working, living in urban areas, and belonging to rich and richest quintiles.
- By wealth status, the richest quintile had the highest proportion of mothers who reported to always hand wash with soap after toilet use, before eating and after eating than the rest of mothers belonging to other wealth quintile groups.
- More mothers in urban areas reported hand washing with soap than their rural counterparts. As expected, mothers who did not complete any grade level had the lowest percentage of hand washing in various situations than their counterparts.
- Across regions, Ilocos had the highest proportion of mothers who always practice handwashing with soap before food preparation (94.9%), before eating (96.4%) and after eating (96.1%). Practice of always hand washing with soap after toilet use was observed highest in Ilocos and CARAGA (both 97.2%). Moreover, CARAGA, had the highest proportions of hand washing with soap before feeding the child (95.7%) and after attending to a child who defecated (96.4%).

I. Infant and Young Child Feeding

Optimal infant and young child feeding practices are crucial to improving the health and nutritional status of children. This should be established early in a child's life (from birth up to two years of age) in as much as poor infant and young child feeding practices can lead to malnutrition, severe illness and irreversible consequences of stunted growth and development delays.

- Between 2011 and 2013, higher proportions of newborn infants were initiated to breastfeeding within 1 hour after delivery at 77.1% than in 2011 at 51.9%. Exclusive breastfeeding among 0-5.9 months rates also increased from 48.9% in 2011 to 52.3% in 2013.

- A higher proportion of children initiated to breastfeeding within one hour after delivery and exclusively breastfed at the time of the survey were noted among those delivered in public hospitals and at home. Consequently, a higher proportion of children not initiated within one hour was noted among those born in private health facilities and at the time of the survey these children were mostly fed with breastmilk substitutes or milk formula.
- The practice of breastfeeding is higher among mothers from the poorest and poor quintiles, living in rural areas, with lower educational attainment, not gainfully employed and with more children.
- As long as there is milk flow, the proportion of mothers who have the intention to breastfeed while currently pregnant was highest in the poorest quintile (32.6%).
- More infants 0-5 months old in the rural areas (60.3%) were exclusively breastfed than in the urban areas (44.2%).
- Higher proportions of infants 0-5 months old were exclusively breastfed by mothers with lower educational levels (no grade completed 58.3%; elementary graduate 65.6%) than mothers with higher education levels (vocational graduate 40.5%; college graduate 36.5%).
- A higher proportion of infants 0-5 months old were exclusively breastfed from mothers with 6 or more children (62.9%) than among mothers with only 1 child (50.1%).
- Continued breastfeeding among 1 year old is only 48.4% and the proportion further declined to 27.6% among 2 years old children. By sex, more females were likely to have prolonged breastfeeding than males; by place of residence, breastfeeding was more likely among rural children than their urban counterparts.
- By employment status, there was a significantly higher proportion of exclusively breastfed children with unemployed mothers (58.0%) than with employed mothers (30.2%). (p-value = <0.000). Furthermore, a significantly lower proportion of working mothers continue breastfeeding up to 1 year (28.8% vs. 58.7%) and up to 2 years (21.7% vs. 34.4%) when compared to non-working mothers.
- Across regions, continued breastfeeding at 1 year ranged from 28.3% in NCR to 68.3% in CAR. NCR rates are significantly lower than the national level estimates.
- The top most reason why mothers did not ever breastfeed her baby was inadequate milk flow (40.6%) followed by mothers who worked away from home at 17.3%. Other reasons include child's separation from the mother (9.2%), mothers with nipple problem (8.7%), the child was adopted (8.0%), the child refused to breastfeed (5.8%) and the mother was sick (5.7%).

- Only 15.5% of children 6-23 months old met the minimum DDS of 4. The proportion of children who met the minimum DDS increased with the child's age, being highest among those 18-23 months old (25.2%).
- More children who were non-breastfed (21.8%) met the MDD than those who were breastfed (8.1%). More children from urban than rural areas (16.3 vis-a vis 14.7%) and from rich and richest quintiles (18.5% and 17.6%, respectively) than the poor and poorest quintiles (13.7% and 11.1%, respectively) met the minimum DDS.
- Across regions, Ilocos (22.0%) had the highest proportion of children 6 to 23 months old who met the MDD while Eastern Visayas registered the smallest proportion at 7%.

J. Salt Survey

One of the interventions that can be considered effective in the control of iodine deficiency disorder (IDD) in the Philippines is the country wide salt iodization program. However, cost effectiveness of this program is dependent on the amount of iodine in the salt that reaches the consumers at the household level and the salt intake of the households. Data collected through National Nutrition Surveys may provide an updated source of information that may aid program implementors to evaluate the performance of their program.

- There was a decrease in the proportion of households who were aware of iodized salt from 78.5% in 2008 to 71.5% in 2013, however, claimed usage increased from 41.9% in 2008 to 47.5% in 2013.
- Based on self-reported non-usage of iodized salt (41.2%), 40.6% of them said that iodized salt has a different taste from ordinary salt and/or that they were used to using ordinary salt, while 24.8% said that iodized salt was not available, 22.1% had no stock at home or were not able to buy and 18.7% said that iodized salt was more expensive than ordinary salt.
- Iodized salt were usually availed or bought mostly in package with label (41.6%), in a package, but without a label (30.0%) and 28.4% bought in "takal" or retail.
- Iodized salt was usually used for both cooking and as table salt (59.4%) and most of these salts were stored in transparent containers with cover (75.2%).
- From the salt samples submitted for quantitative determination of iodine, 41.3% were bought from supermarkets or groceries, 33.3% from market/ambulant vendors, 24.8% from sari-sari stores, and 5.9% were given free or from health centers. Nearly half (47.6%) of these salt samples were below 5ppm iodine.

- Compared with previous surveys in 2005 and 2008, median iodine level of iodized salt markedly decreased from 12.0 ppm in 2005 to 5.3 ppm in 2008. A slight increase was seen from 5.3 ppm in 2008 to 5.6 ppm in 2013.

K. Nutrition Labelling

Nutrition labelling may play an important role in the prevention and control of nutrition and lifestyle related diseases. Nutrition labels may provide relevant and correct information on healthy food choices for a balanced diet.

- Less than half (41.0%) of the households' meal planners read product labels while some read sometimes only (15.6%). Among those who reported reading product labels, the date of expiration is the information often looked into (70.2%).
- Among the meal planners who read product labels, only 12.3% read the nutrition facts and half of them (50.2%) were interested in the calories per serving.
- Among meal planners who read nutrition facts, only 4.9% reported that their purchase of the product was not influenced by reading the label.

L. Disability Statistics

Disability is a collective term for impairments, activity limitations or participation restrictions according to the International Classification of Functioning, Disability and Health (ICF, 2005). For harmonization and uniformity of reporting of disability statistics, the Washington Group on Disability Statistics developed an internationally comparable short set of disability questions. This tool was used in 2013 in conjunction with the conduct of 8th NNS.

- Among the core domains of disability, namely: vision, hearing, walking and memory, the highest proportion of adults, 20 years and over with difficulty of doing certain activities because of a health problem was contributed greatly by memory domain at 17.8%, with higher proportions among females (19.9%) than males (15.4%).
- Aside from the core domains of disability, additional questions on difficulty with self-care and communicating were asked to the respondents and only 1.5% reported difficulty with self-care activities while a little less lower reported difficulty in communicating at 1.1% due to physical, mental and emotional health conditions.

- About 1/3 of adults (32.4%) had at least one type of disability.
- Generally, a lower proportion of self-reported difficulties for those with at least one disability across domains were observed among urban residents (30.9%) than their rural counterparts (34.2%).
- Among the regions, Ilocos, Zamboanga Peninsula, Northern Mindanao and Bicol had more than 20.0% vision disability rates than the rest of the regions in the country.
- Difficulty in hearing was common in Zamboanga Peninsula at 13.4%, while the least was noted in the SOCCSKSARGEN at 0.9%.
- Eight out of 17 regions of the country had more than 20% disability rates for memory domain. The highest proportion of adults with difficulty in remembering and concentrating was noted in ARMM at 30.1%, while the least was noted in CALABARZON at 12.8%.

M. History, Signs and Symptoms of Various Diseases

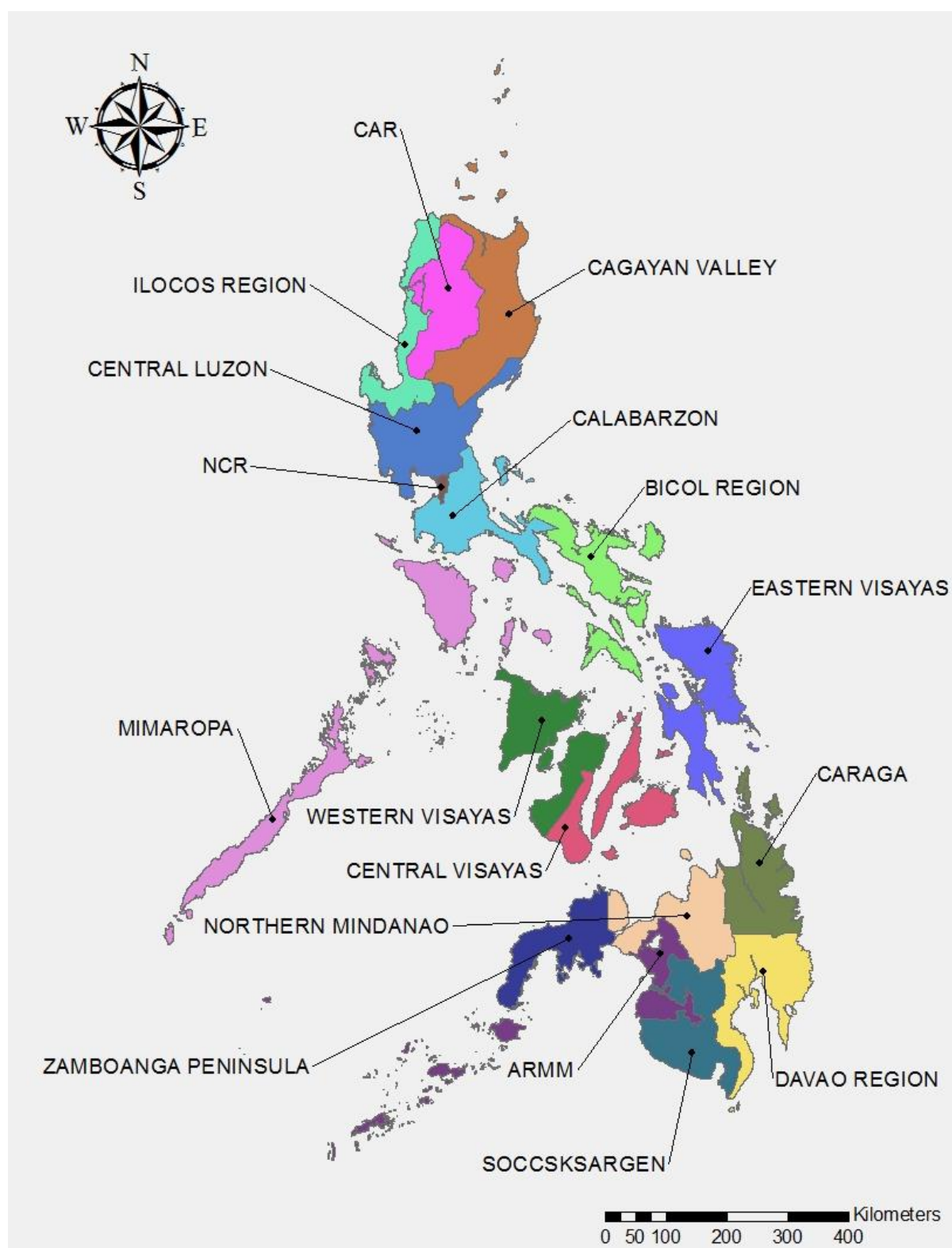
History, signs and symptoms of various diseases based on interviews are essential to approximate the severity of risk among adults if correlated with NCD risk factors. Previous history of diseases may establish the link between NCD risk factors with the occurrence of these chronic diseases and health-related disabilities.

- The overall prevalence of stroke based on previous history was 1.4%; it increased with age and was higher among males at 1.6% than females at 1.2%. Stroke was more common in urban areas (1.7%) and in individuals belonging to the richest quintile (1.7%). MIMAROPA was recorded to have the highest prevalence of stroke among the regions at 2.3%.
- Angina symptoms were present in 25.4% of Filipino adults and it also increased with age. It was more common among females at 27.2%, in the rural areas (26.7%) and among those in the middle to poorest quintile at about 26.0%. Among the regions, Cagayan Valley had the highest prevalence of angina at 35.9%.
- Myocardial infarction based on previous history had a prevalence of 0.4% and also increased with age. Female adults had a slightly higher prevalence at 0.5% than males at 0.3%. However, there was no significant difference noted between rural and urban areas, both having 0.4% prevalence.
- Prevalence of coronary artery disease (CAD) by previous history was 0.9% and was higher among females (1.1%) than among males (0.7%). CAD was highest in urban areas (1.2%) and

those in the richest quintile (1.3%). NCR and Central Luzon have the highest prevalence of CAD among the regions at 1.6%.

- Peripheral arterial disease (PAD) based on previous history had the lowest prevalence among the other atherosclerotic diseases at 0.1%. It increased with age but there was no difference between males and females and between rural and urban areas with both having 0.1% prevalence.
- Liver disease had a 0.6% prevalence based on previous history. Liver disease was higher among males (0.8%) than females (0.3%). It was more common in rural areas (0.6%) and among those belonging in the rich quintile (0.8%). Prevalence of liver disease was highest in the Bicol region at 1.0%.
- Prevalence of asthma based on previous history was 3.9%. This was common among adults, 60.0 years old and over, particularly among females with 4.4%. Asthma was experienced more in urban areas (4.3%) and by individuals in the richest quintile (4.8%). Central Luzon had the highest percentage of adults with asthma (5.4%).
- The prevalence of cancer was 0.3%, with the same prevalence for males and females (0.3%). Cancer is slightly higher in urban areas (0.3%) and was seen more among the richest quintile (0.5%) and in NCR (0.5%).
- Prevalence of allergy was 3.0% and it was noted that females (4.1%) suffered from it more than males (1.8%). It was also highest in the urban areas at 3.8% and increased across the wealth quintile. Central Luzon was highest (4.7%) among other regions.
- Previous history of kidney disease had a 2.9% prevalence and it was highest among males at 3.3%. It also increased with age, peaking at 50.0 to 59.9 years old and then decreased afterwards. Kidney disease was common in the rural areas at 3.1%; however, the prevalence of this disease was the same in the richest and the poorest quintile at 3.2%. MIMAROPA and Zamboanga Peninsula had the highest proportion of adults who had kidney disease (6.1%).
- The prevalence of goiter based on previous history was 1.7% and it affected more females (2.9%) than males (0.4%). It peaked at the age of 60.0 (3.4%). A slightly higher prevalence was noted in the urban areas (1.8%) than in rural areas (1.7%) but individuals belonging in the richest quintile were greatly affected by goiter at 2.3%. Among the regions, CAR had the highest prevalence at 3.2%.

MAP OF THE PHILIPPINES



1. INTRODUCTION

1.1 Background of the 8th National Nutrition Survey

The Food and Nutrition Research Institute (FNRI) of the Department of Science and Technology is the principal research arm of the government in food and nutrition. As such, the Institute is committed to pursue the goals and objectives of the National Science and Technology Plan (NSTP) and the Philippine Plan of Action for Nutrition (PPAN).

Through the years, the Institute continues to provide relevant technologies and scientific information on food and nutrition. Major accomplishments include the development and commercialization of nutritional food products; conduct of periodic nationwide nutrition surveys; development of analytical food quality and safety assurance system; strategies and programs to address the problem on malnutrition and tools, guidelines and standards to serve the needs of nutrition and nutrition-related workers. All these technologies are transferred to health and nutrition program implementers as well as the households and communities with the ultimate goal of improving the quality of life of Filipinos.

The FNRI-DOST is mandated by Executive Order 128 to do research that defines the nutritional status of the population, to develop and recommend policy options, strategies, programs and projects and to disseminate research findings and recommendations. In 1996, through Executive Order 352 of the conduct of periodic National Nutrition Surveys (NNS) and Updating Survey of the Nutritional Status of Filipino Children and Other Population Groups are two designated statistical activities assigned to FNRI-DOST. The NNS is conducted every five years while the Updating Survey is done in between two NNS or two to three years after the NNS to update the nutritional status of the population.

The 8th National Nutrition Survey conducted in 2013 is one of the prime and most comprehensive surveys since the first Nutrition Survey in 1978. It is comprised of ten major components, namely: Anthropometry, Biochemical, Clinical and Health, Dietary Consumption (Household and Individual Level), Socioeconomic, Food Security, Government Program Participation, Infant and Young Child Feeding Practices, Maternal Health and Nutrition and Household Awareness and Usage of Iodized Salt, Nutrition Label and Nutrition Facts. The 8th NNS intends to generate data to provide the benchmarks from which the country's progress towards achieving Millennium Development goals will be gauged, which include hunger eradication, child mortality reduction, and maternal health improvement.

1.2 Objectives of the Survey

As mandated by the Government, the primary purpose of the NNS is to determine and evaluate the food intake, nutrition and health status of Filipinos by providing updated official statistics on food, nutrition and health situation of the country.

The 2013 NNS specifically aims:

- To determine the prevalence of underweight, stunting, thinness, overweight and obesity (BMI, WC, and WHR) among population groups;
- To determine the prevalence of iron deficiency anemia (IDA), iodine deficiency disorders (IDD), thalassemia, vitamin D deficiency, vitamin A deficiency (VAD), and zinc deficiency;
- To determine the prevalence of selected risk factors to NCDs at the national and sub-national level among adults, 20 years and over and adolescents, 10.0 to 19.9 years;
- To determine the prevalence of some diseases such as stroke, myocardial infarction, coronary diseases, peripheral arterial disease, Parkinson's disease, seizures, asthma, allergy, kidney disease, liver disease, goiter, cancer, osteoporosis and arthritis based on previous history among adults, 18 years and over;
- To determine the prevalence of functional disabilities particularly on vision, hearing, walking/climbing, remembering, self-care and communication among adults 20.0 years and over;
- To determine the food and nutrient intakes and adequacy at the household and individual level;
- To determine socioeconomic and demographic characteristics of households and members;
- To determine the prevalence and magnitude of household food insecurity and household economic access to food;
- To determine the participation of households and individuals in various government health and nutrition-related programs;
- To assess current infant and young child feeding practices of Filipino mothers with children 0-23 months old;
- To determine maternal nutrition and child health care practices of mothers with children 0-36 months old;
- To determine household awareness and usage of iodized salt; and
- To determine the proportion of meal planners who read product labels.

1.3 Significance and Uses of NNS

The food and nutrition statistics provided by the Nutrition Survey serves as the basis for drafting, resource allocation and implementation of the country's plans and programs for the improvement of health, especially among the nutritionally vulnerable households and population groups. More importantly, NNS results are utilized for policy formulation, monitoring and evaluation and enactment of laws. The Philippine Food Fortification Act of 2000 (RA 8172), National Policies on Infant and Young Children (AO No. 2005-0014), Anti-hunger Mitigation Program (EO 616), Sin Tax Law (RA 10351) are some policies and laws that utilize NNS results, to name a few. Moreover, the NNS are also availed and used extensively in monitoring and planning country development projects related to nutrition by international and foreign organizations such as the United Nations Children's Fund (UNICEF), World Health Organization (WHO), Food and Agriculture Organization (FAO), United States Agency for International Development (USAID), World Bank (WB), and Hellen Keller International (HKI).

1.4 Survey Components

The 8th National Nutrition Survey is divided into ten (10) components, namely: Anthropometry, Biochemical, Clinical and Health, Dietary, Socioeconomic, Food Security, Government Program Participation, Infant and Young Child Feeding (IYCF) and Maternal Health and Nutrition and Household Awareness and Usage of Iodized Salt, Nutrition Label and Nutrition Facts.

The data gathered at the household level included household food consumption as part of the dietary component, socioeconomic status, food security, government program and participation and salt survey. Data for the anthropometry, biochemical, clinical and health, individual food consumption, government program participation, IYCF and maternal health and nutrition components were obtained on the individual level.

1.4.1. Anthropometry

Anthropometry is a key component of the assessment of the nutritional status in children and adults (Simko & Cowell, 1995). Anthropometric data reflect general health and nutritional status, predicts performance, health and survival and is used to track trends in growth and development over time.

The National Nutrition Survey (NNS) is the only research undertaking in the country that provides national estimates on the nutritional status of the Filipino population across all ages. Program planners and policy makers rely on the data to formulate, allocate resources and implement evidence-

based policies. Furthermore, it is also used to track the country's progress towards achieving the targets of the Millennium Development Goals (MDGs).

1.4.2. Biochemical

The biochemical component of the National Nutrition Survey provides objective assessment of the nutritional status of the individual. Together with the anthropometry, clinical and dietary components, it allows for a more definitive appraisal of the nutritional status of the population.

This component of the 8th NNS provides data on biochemical indicators that are indicative of iron deficiency anemia (IDA), thalassemia, iodine deficiency disorder (IDD), vitamin A deficiency (VAD), and zinc, folate and vitamin B6 deficiencies.

1.4.3. Clinical and Health

The clinical and health component of the National Nutrition Survey has evolved from clinical signs of nutritional deficiencies (vitamin A, iron deficiency and iodine deficiency disorders) to the addition of the epidemiology of lifestyle-related diseases (android obesity, hypertension, diabetes, dyslipidemia etc.). The data collected were likewise correlated with data from other NNS components such as the sociodemographic, anthropometry and dietary components to provide a more definitive assessment of the emerging problem of noncommunicable diseases (NCDs). To date, the clinical and health component has been supported by the Department of Health (DOH) and other medical specialty associations.

1.4.4. Dietary

The dietary component collects data to measure food and nutrient intakes at the household and individual levels. It provides information on the quantities of food consumed the nutritive value of the diet and the adequacy of intake can be derived. It is considered an indirect method of assessing the nutritional status of a population (Gibson, 2005).

The Household Food Consumption Survey (HFCS) depicts food intake in relation to regional, economic, demographic or socioeconomic differences in the country. On the other hand, the Individual Food Consumption Survey (IFCS) provides data on the intake and nutrient adequacies across the different population groups.

The dietary survey aims to present dietary patterns of the population and identify public health concerns of inadequate and excess consumption.

1.4.5. Socioeconomic

This module is the most basic of all modules as this contains the household membership and demographic information which determines the interview guides to be used according to age group or physiological state.

The living conditions of the household could be assessed using proxy indicators such as type and tenure of dwelling unit, presence and type of utilities in the household, ownership of appliances and vehicles. The household health and sanitation could likewise be determined by toilet facility, sources of drinking, cooking and handwashing water and garbage disposal system.

1.4.6. Food Security

The WFP reports that in the Philippines, food security situation has improved with increase in food assistance. However, the most vulnerable populations remain to be food insecure and highly dependent on food assistance.

The Food and Agriculture Organization defines food security as the state *“when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”* (FAO, 1996). Household food access is defined as the ability to acquire sufficient quality and quantity of food to meet the nutritional requirements of all household members to live productive lives.

This module collects data to assess food security of Filipino households in terms of food access, dietary diversity and food frequency.

1.4.7. Government Program Participation of Individuals and Households

The Government Program Participation Survey assesses the participation of households and members on selected government nutrition and related programs. At the household level, the Government Program Participation Component was designed to obtain national benchmarks on the participation of households to a wide range of nutrition and health programs of the government. Information was collected on nutrition-related programs. These include programs in agriculture, loan, livelihood and employment, utilization of Botika ng Barangay services, Core Shelter Assistant

Projects for victims of disasters and calamities, memberships in Pantawid Pamilyang Pilipino Program and PhilHealth.

On the individual level, the GP component collects data among zero to five years of age on the availment of newborn screening, participation on the Expanded Program on Immunization, deworming, supplemental feeding program, participation in daycare, Orally Fit Child program, micronutrient supplementation and awareness and usage of the Multiple Nutrient Powder or MNP, which were asked in households with children 6 to 23 months. For children six to twelve years, data on deworming, participation in Essential Health Care Program (EHCP), participation in school gardening and awareness on the benefits of iodized salt was collected. For youth members 10 to 25 years of age, persons with disabilities (PWDs) and elderly 60 years and over, data on the availment of Senior Citizen discount card (SCDC), availment of services for persons with disability and programs for the out-of-school and in-school youth were also collected.

1.4.8. Maternal Health and Nutrition

Improvement of maternal and child health is an international agenda as stipulated in the Millennium Development Goals (MDGs) 5 and 6. However, the Philippines may not be able to achieve the targets with the persistence of poor health and poor nutrition as a significant public health concern among Filipino mothers including pregnant and lactating mothers. In the Philippines, eight women die every day¹ equivalent to one woman dying every three hours because of pregnancy-related causes and childbirth.

This component collects data on the maternal and child health practices such as prenatal care, nutrition counseling, pregnancy complications, micronutrient supplementation and postnatal care. It also includes knowledge on breastfeeding and complementary feeding, knowledge, of child's immunization, attitude and willingness on maternal and child health care, mothers' health seeking behaviors and practices, hygienic practices and childcare practices. These characteristics are known to influence health and nutrition of mothers and children.

1.4.9. Infant and Young Child Feeding

Infant and young child feeding (IYCF) practices pose an indispensable impact on the nutritional status, growth and development and health and survival of infants and young children. This should be well-established early in a child's life, i.e. from birth until the child reaches two years of

¹Based on the WHO, UNICEF, UNFPA, The World Bank, and the United Nations Population Division Maternal Mortality Estimation Inter-Agency Group estimate of about 3000 maternal deaths per year, 2013

age, as poor feeding practices during this stage of life could lead to malnutrition, severe illnesses and irreversible consequences of stunted growth and developmental delays.

This component updates information on the feeding practices of Filipino children and compare the results with the previous NNS as bases in the formulation of policies, plans and programs on infant and young child feeding towards the improvement of their overall health and well-being. This is in line with the jointly developed guidelines of the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) to achieve the child's optimal growth and development by promoting appropriate infant and young child feeding practices such as exclusive breastfeeding, provision of appropriate complementary foods (World Health Organization & UNICEF 2003).

All children 0-23 months old of selected households were taken as subjects. The respondent for this interview should be the primary caregiver of the child.

1.4.10. Household Awareness and Usage of Iodized Salt, Nutrition Label and Nutrition Facts

This component provides information on the awareness, frequency, usage and source of iodized salt of households and the utilization of product labels and nutrition facts.

R.A. 8172, referred to as the ASIN LAW requires all food grade salt (i.e. salt for human and animal consumption) to be iodized. It also mandates all salt producers and traders to make iodized salt available to all Filipinos. This law was enacted to address the high prevalence of iodine deficiency disorders in the country.

Usage of product labels and nutrition facts were also assessed using this module. The Labelling Law Republic Act 3720 (Food, Drug, and Cosmetic Act) prescribes rules and regulations for the packaging and labeling of foods distributed in the Philippines Bureau of Food and Drug (BFAD, now known as Food and Drug Administration). Product labeling is the provision of adequate information and accurate identification of the pre-packaged foods. It is a means by which the product manufacturers communicates with the consumers, traders and regulatory agency.

2. METHODOLOGY

2.1 Sampling Design

The 8th National Nutrition Survey (NNS) adopted the 2003 Master Sample developed by the Philippine Statistics Authority (PSA) (formerly the National Statistics Office (NSO)). The survey employed a stratified three-stage sampling design (Figure 1. Sampling design of the 8th National Nutrition Survey (NNS)). The first stage is the selection of Primary Sampling Units (PSUs), consisting of one barangay or a combination of contiguous barangays with at least 500 households each. From these PSUs, enumeration areas (EAs) with 150 to 200 households were identified, from which housing units were randomly selected. The third and final stage was the random selection of the households, which is the ultimate sampling unit (Barcenas, 2004). A household is defined as “a group of persons who may be related or not, who sleep in the same dwelling unit and have common arrangements for the preparation and consumption of food.”² Eligible members of the sampled households were included in the survey. The list of sample households was taken from the 2009 Labor Force Survey (LFS).

The NNS used four replicates of the Master Sample to obtain the national, regional, and provincial estimates for measurements of anthropometry, blood pressure and interview schedule-based information. For the biochemical and dietary components, one replicate was used to obtain national as well as regional estimates

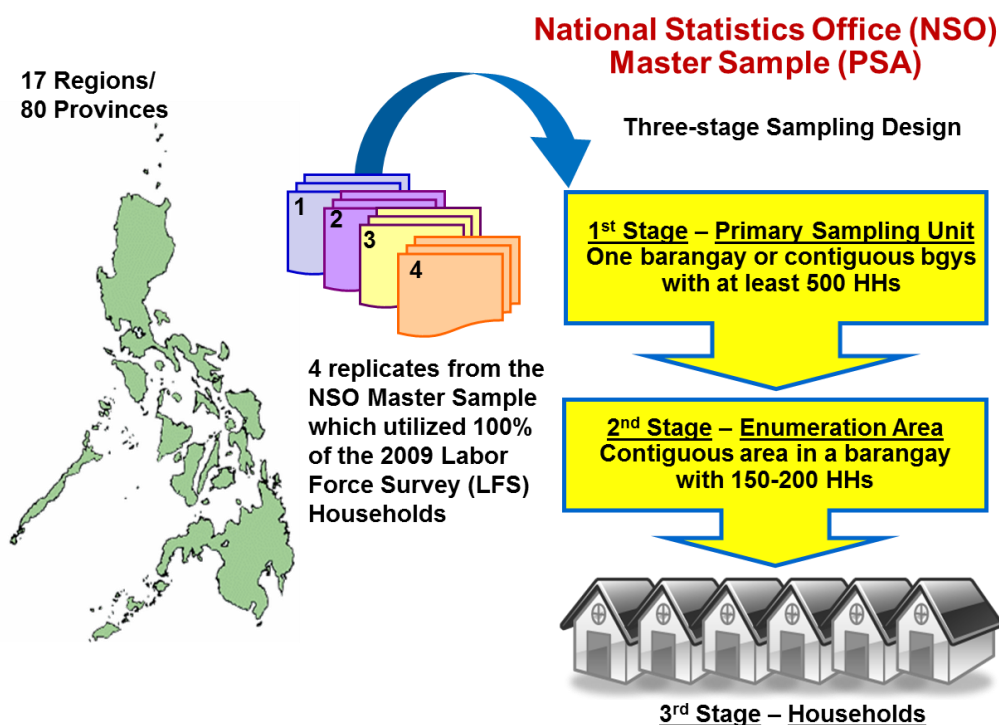


Figure 1. Sampling design of the 8th National Nutrition Survey (NNS)

²Manual of Instructions, 8th National Nutrition Survey, Philippines, 2013, p.5

2.2 Scope and Coverage

The 8th NNS was divided into three (3) phases or legs. The first leg was conducted in Luzon survey areas from June 19 to September 2013. Areas in the Visayas and Mindanao, except for areas hit by typhoon ‘Yolanda’, which comprised the second leg, were surveyed from September 2013 to December 4, 2013. The last leg consisted of areas in the National Capital Region (NCR), BaSulTa (Basilan, Sulu and Tawi-Tawi) and remaining municipalities in Northern Iloilo, Capiz, Aklan and Antique which were covered from February 16 to April 5, 2014.

Eighty seven percent of the target households on the PSA list (LFS First Quarter) were eligible for interview. The overall response rate was 91.3%. The response rate was noticeably lower in the urban areas than in the rural areas.

Table 1. Household level target, eligibility and response rate: Philippines, 2013

Eligibility and Response	n	Residence	
		Urban	Rural
Target HHs (NSO list)	45,047	21,335	23,712
Eligible (actual)	39,253	18,125	21,128
% Eligibility	87.1	85.0	89.1
Response	35,825	15,866	19,959
% Response	91.3	87.5	94.5

The 8th National Nutrition Survey covered all 17 regions and 80 provinces of the country. Batanes was excluded for logistic reasons. Table 2 shows the survey coverage in terms of enumeration areas, sample households and sample individuals.

Overall, there were 3,114 identified enumeration areas. There was a total of 35,825 sample households and 172,323 individuals covered.

Table 2. Distribution of enumeration areas (EAs), sample households and sample individuals: Philippines, 2013

Region	Enumeration Areas	Sample Households	Individuals
Philippines	3,114	35,825	172,323
Ilocos	150	2,220	10,725
Cagayan Valley	131	1,853	8,256
Central Luzon	239	2,985	14,453
CALABARZON	299	3,468	16,297
MIMAROPA	127	1,565	7,229
Bicol Region	154	2,203	11,133
Western Visayas	190	2,517	11,993
Central Visayas	186	2,542	12,063
Eastern Visayas	141	2,050	9,764
Zamboanga Peninsula	140	1,470	7,169
Northern Mindanao	152	1,734	8,347
Davao	162	1,827	8,488
SOCCKSARGEN	151	1,784	8,679
NCR	540	3,468	16,422
CAR	121	1,471	7,288
ARMM	103	1,090	6,345
Caraga	128	1,578	7,582

The overall response rates were 91.3 percent for the households and 91.5 percent for the individuals.

For the anthropometry component, all age groups had a response rate of more than 92 percent, except for the 18 years and over age group with an 89.1 percent response rate.

Blood extraction on individuals six months and over for hemoglobin testing had an 85.7 percent response rate. Measurement of blood pressure had an average of 97 percent response rate.

Determination of fasting blood sugar (FBS) and lipid profile for individuals 18 years and over yielded an 83.4 percent and 85.9 percent response rate. Urine samples for sodium and creatinine testing missed the target response rate by three percentage points, resulting to only 76.8 percent response.

Face-to-face interviews for the Government Program Participation, Infant and Young Child Feeding and Maternal Health and Nutrition components had a response rate of more than 90 percent.

Government program participation at the household level had the highest response rate at 99.5 percent. Salt testing yielded an 89.8 percent response for the rapid salt testing on site and an 80.9 percent response for the WYD testing.

Table 3. Response rate and sample size per component: Philippines, 2013

Component	Sample Size	Response (%)
INDIVIDUALS	172,323	91.5
<i>Anthropometry</i>		
0-60 months (0-5.0 years old)	13,423	96.2
61-120 months (5.08-10.0 years old)	16,398	95.8
10.08-17.9 years old	26,049	92.7
18 years old & over	73,922	89.1
Pregnant	1,196	96.8
Lactating	2,609	97.0
<i>Biochemical</i>		
Hemoglobin 6 months old & over*	33,852	85.7
Urine (6-12 years old)	22,588	90.5
<i>Clinical and Health</i>		
Blood Pressure		
10-19.9 years old	30,887	97.4
20 years old & over	73,992	96.6
Smoking, Alcohol*		
10-19.9 years old	8,678	89.2
20 years old & over	20,163	87.3
Blood Sugar (18 years old & over)*	19,667	83.4
Lipids (18 years old & over)*	20,244	85.9
Urine sodium and creatinine (NCR) (18 years old and over)*	1,792	76.8
<i>Dietary*</i>		
6 months-5 years old	2,338	97.9
6-12 years old	3,509	98.7
13-18 years old	3,279	96.6
19-59 years old	11,184	95.8
60 years old & over	2,277	98.7
Pregnant Women	193	97.8
Lactating Mothers	411	99.0
<i>Government Program Participation</i>		
0-71 months	16,618	93.9
6-12 years old	23,996	91.0
<i>Infant and Young Child Feeding (0-23 months)</i>	4,960	97.8
<i>Maternal Health and Nutrition</i>		
Non-pregnant with child	5,450	94.7
Pregnant with child	360	98.4
Pregnant without child	843	98.1

Component	Sample Size	Response (%)
HOUSEHOLDS	35,825	91.3
<i>Dietary*</i>	8,592	85.1
<i>Food Security</i>	35,573	90.6
<i>Government Program Participation</i>	35,640	90.8
Salt		
Salt Awareness	35,486	90.4
Rapid salt testing using MBI Kit	34,255	87.3
WYD Iodine Checker*	8,173	80.9
Socioeconomic	35,584	90.7

**used only one replicate of the sample households*

2.3 Survey Methods and Analyses

2.3.1. Anthropometry

2.3.1.1. Method of Data Collection

The weight and height/ recumbent length of all members were measured following standard anthropometric techniques. Waist and hip circumference was measured among subjects 10 years old and above, excluding pregnant women.

The weight of all eligible household members was measured using a Detecto™ platform beam balance weighing scale with 160-kilogram capacity. Children below 2 years of age and those not able to stand independently were weighed together with the mother or caregiver or any adult companion. To obtain weight of the child in this case, the weight of the mother or caregiver or any adult companion without the child was subtracted from the weight of the child with the mother/caregiver. Weight was recorded to the nearest 0.1 kilograms.










Standing height of subjects for two (2) years and above was measured using a Seca™ microtoise. On the other hand, recumbent length of subjects less than 2 years old was measured using an infantometer or a wooden length board. Height/length was recorded to the nearest 0.1 centimeters.

Waist and hip circumferences were measured using a calibrated tape measure.

All measurements were taken twice.

Table 4. Description and equipment/tools for anthropometry data collection

Equipment/ Tools	Description	Illustration
<ul style="list-style-type: none"> Calibration/ Test weight 	This is a 5-kilogram metal weight used to calibrate the platform beam balance at the beginning of each weighing activity. Each RST and MST have one unit calibration/test weight.	
<ul style="list-style-type: none"> Platform beam balance 	The platform beam balance is a 160 or 175-kilogram capacity scale that is used to measure the weight of the subjects. One unit is provided to each RST and MST.	
<ul style="list-style-type: none"> Microtoise 	This is used to measure the height (stature) of subjects 2 years and above. It consists of an L-shaped device (the head bar) to which a spring-loaded coiled tape measure is attached. One microtoise is provided to each RST and MST.	
<ul style="list-style-type: none"> Infantometer 	Infantometer is a wooden board that is used to measure the recumbent length of subjects from 0-23 months (<2 years old). Each RST and MST is provided with one unit Infantometer. A wooden case, labelled with "FNRI-DOST", is also provided to secure the Infantometer when not in use or during transport.	
<ul style="list-style-type: none"> Tape Measure 	Two 2-meter flexible, but non-stretchable tapes with linear markings (inches on one side and centimeters on the other side) are provided to each RST and MST. The tape is used to measure waist, hip, and neck circumferences.	
<ul style="list-style-type: none"> Screwdrivers 	A flat and Philips head screwdrivers are used to adjust the screw of the balance/lever of the platform beam balance until it stays at the center of the indicator window during calibration.	
<ul style="list-style-type: none"> Plumb bob 	The plumb bob is a metal weight, usually with a pointed tip on the bottom that is suspended from a string and used as a vertical reference line, or plumb-line when setting up the microtoise against a flat smooth wall.	

2.1.1.1 Analysis of Nutritional Status

The World Health Organization-Child Growth Standards (WHO-CGS) was used to assess the nutritional status of children 0 to 5.0 years old (0-60 months), based on weight and height measurements. For the nutritional status of children 5.08 to 19.0 years old (61-228 months), the WHO Growth Reference 2007 was used.

The softwares used for data analysis were WHO Anthro 3.3.2 for children 0-60 months and WHO Anthro Plus 1.0.3 for children 61-228 months.

Table 5. Age groups of the WHO-Child Growth Standards (CGS) for infants and young children, (0-60 months) and WHO Growth Reference 2007 for school-aged children and adolescents (61-228 months) by index

Indicators	WHO Child Growth Standards	WHO Growth Reference 2007
Weight-for-age	0-60 months (0-5.0y)	61-120 months (5 y & 1mo-10.0y)
Length/Height-for-age	0-60 months (0-5.0y)	61-228 months (5y & 1mo-19.0y)
Weight-for-length/height	0-60 months (0-5.0y)	None
BMI-for age	0-60 months (0-5.0y)	61-228 months (5y & 1mo-19.0y)

Table 6. Cut-off points used in classifying nutritional status of children, 0-10 years old (0-120 months), based on WHO-CGS

Indicator/Nutritional Status	Cut-off Points
Weight-for-age	
Underweight	<-2SD
Normal	-2SD to +2SD
Above Normal	≥2SD
Length/Height-for-age*	
Underheight/Stunting	<-2SD
Normal	-2SD to +2SD
Above average/tall	≥2SD
Weight-for-length/height**	
Thin/Wasting	<-2SD
Normal	-2SD to +2SD
Overweight	≥2SD
NEC	***

* Use only for children 10 years and 1 month to 19.0 y (121-228 months)

** Use only for children 0-5 years (0-60 months)

*** NEC Not Elsewhere Classified – those whose heights are beyond the limits of the weight-for-height tables

Table 7. Cut-off points used in classifying nutritional status of children, 0-5 years old (0-60 mos), based on BMI-for-age (WHO-CGS)

Nutritional Status	Cut-off Points
Severe wasting/thinness	<-3SD
Wasting/thinness	<-2SD to -3SD
Normal	-2SD to +2SD
Overweight	>+2SD to +3SD
Obesity	>+3SD

Table 8. Cut-off points used in classifying nutritional status of children, 5.08-19.0 years old (61-228 months) based on BMI-for-age (2007 WHO Growth Reference)

Nutritional Status	Cut-off Points
Severe thinness	<-3SD
Thinness	<-2SD to -3SD
Normal	-2SD to +1SD
Overweight	>+1SD (equivalent to BMI 25 kg/m ² at 19 yrs)
Obesity	>+2SD (equivalent to BMI 30 kg/m ² at 19 yrs)

Tables 9 and 10 present the cut-off points used to determine the magnitude and severity of underweight, stunting and wasting as a public health problem among children below five years old (WHO, 1995).

Table 9. Cut-off points used in determining magnitude and severity of underweight and stunting among children under-five years old (0 to <60 months), as a public health problem (WHO, 1995)

Magnitude and Severity	Prevalence Category for Underweight	Prevalence Category for Stunting
Low	<10%	<20%
Medium	10-19%	20-29%
High	20-29%	30-39%
Very High	≥30%	≥40%

Table 10. Cut-off points used in determining magnitude and severity of wasting among children under-five years old (0 to <60 months), as a public health problem (WHO, 1995)

Magnitude and Severity	Prevalence Category for Wasting
Acceptable	<5%
Poor	5-9%
Serious	10-14%
Critical	≥15%

Body mass index (NCHS/WHO, 1978) was used to assess nutritional status of adults and lactating women 19.0 years old and over (Table 11).

Table 11. Cut-off points used in classifying nutritional status of adults and lactating mothers 19.0 years old and over (≥ 228 months) based on Body Mass Index (NCHS/WHO, 1978)

Classification	Cut-off Points
Chronic Energy Deficiency (CED)	<18.5
Normal	18.5 to 24.99
Overweight	25.0 to 29.99
Obesity	≥ 30.0

The nutritional status of pregnant women was evaluated using the Philippine reference weight-for-height index developed by Magbitang et.al. (1988) (Table 12). A pregnant woman whose weight falls below the 95th percentile is classified as nutritionally at-risk.

Table 12. Cut-off points used in classifying nutritional status of pregnant women based on weight-for-height (Magbitang et.al., 1988)

Classification	Cut-off Points
Nutritionally at-risk	< P ₉₅
Not Nutritionally at-risk	$\geq P_{95}$

Table 13 was used to classify the waist circumference and waist-hip ratio of male and female adults.

Table 13. Classification and cut-off points for waist circumference and waist-hip ratio by sex

Sex	Waist Circumference (cm)	Classification	Waist-Hip Ratio
Male	<90	Low	<0.9
	90-101	Normal	0.9 to 0.99
	≥ 102	High	≥ 1.0
Female	<80	Low	<0.8
	80-87	Normal	0.8 to 0.84
	≥ 88	High	≥ 0.85

2.3.2. Biochemical

2.3.2.1. Method of Data Collection

Two types of specimens were collected for the biochemical component: blood and urine.

Skin puncture or finger prick and venipuncture techniques were used for the blood sample collection. The finger prick blood collection was applied for subjects 6 months to 60 months or <2 years to 5 years of age, drawing 0.5 ml of blood twice. The venipuncture blood collection was used for subjects 61 months and over, drawing 4-5 ml of blood. Standard hematologic techniques were applied.



Table 14. Blood volume and parameters: Philippines, 2013

Age/ Physiologic Group	Collection Procedure/ Volume	Storage Container	Whole Blood			Serum		
			Hb	Hct	Folate	Vit. A	Zinc	Folate
6 mos-5 yrs (M/F)	Finger prick/ 2 x 0.5 ml	2 0.5 ml plain microtainer tube	x			x	x	
6-14 yrs (M/F) 15-19 yrs (M) Lactating Mothers	Venipuncture/ 4-5 ml	Trace element- free tube (4-5 ml)	x			x	x	
15-45 yrs (F) Pregnant	Venipuncture/ 5 ml	EDTA tube (2 ml) Trace element- free tube (3 ml)	x	x	x	x	x	x
Adults (Male, ≥ 20 yrs) (Female, ≥ 46 yrs)	Venipuncture/ 4-5 ml	EDTA tube (1 ml) Trace element- free tube (3 ml)	x			x	x	x

The flow of blood collection for the 8th NNS is illustrated in Figure 2 and 3.

The field specimen processing involves separation of plasma within two hours after collection and centrifugation of blood samples in test tubes for 20 minutes using an electric centrifuge at 2,500-3,000 rpm or 30-45 minutes using a hand-driven centrifuge. The serum is transferred into separate microcentrifuge tubes (by analysis). The tube was labeled properly and serum was stored in the freezer or ice chest with dry ice until transport and analysis in the laboratory.



The random urine sample was collected from children 6-12 years and women of reproductive age (15-45 years), pregnant and lactating women. About 15 ml of midstream urine was collected from each subject in a clean plastic cup before transfer into polypropylene bottles.

All collected sample specimens were transported to the FNRI Office for laboratory analysis. The vials containing serum and urine samples were placed in separate plastic bags and kept frozen until shipped. The specimens were securely packed in an insulated Styrofoam shipper or ice chest with dry ice. The list of participants with the corresponding sample code was placed in sealed plastic envelopes or bags and placed atop a cardboard or newspaper covering the dry ice inside the Styrofoam shipper/ice chest for proper identification of shipped samples.

Proper washing of glasswares and safe handling of biological hazards was observed strictly.

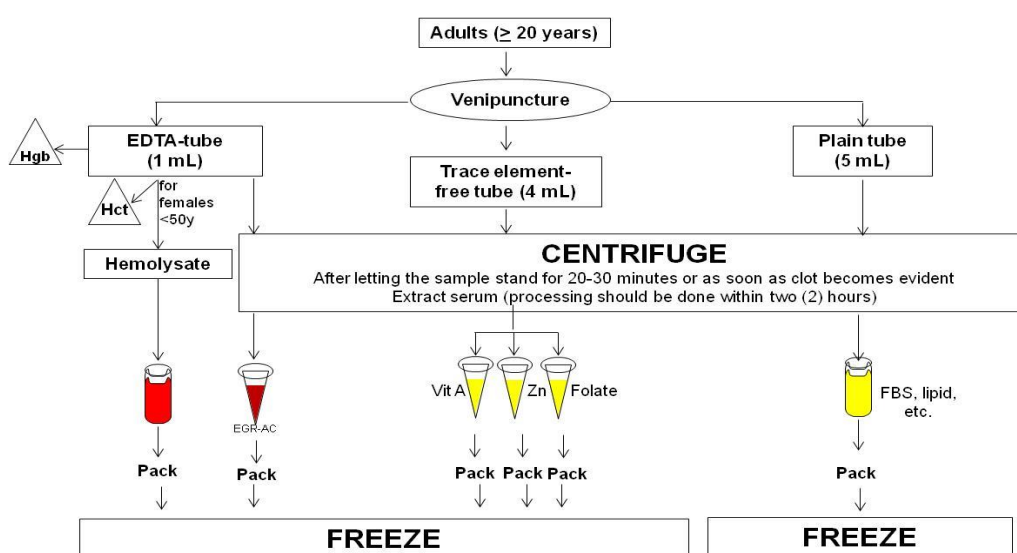


Figure 2. Flow of blood collection for adults 20 years and over for biochemical component: Philippines, 2013

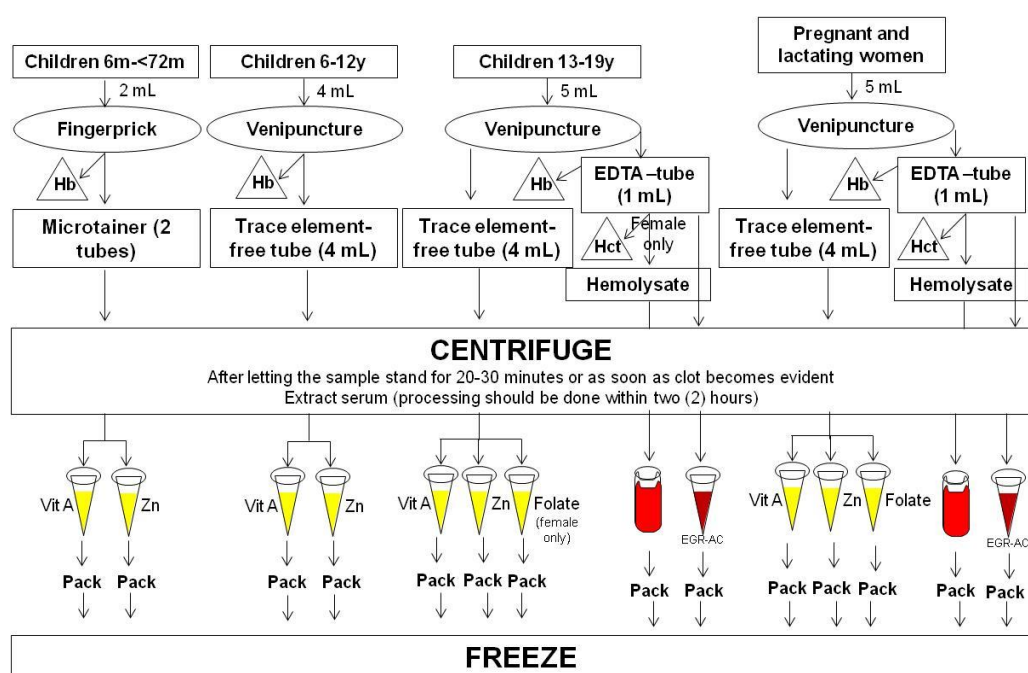


Figure 3. Flow of blood collection for children 6 months-19 years and pregnant and lactating women for biochemical component: Philippines, 2013

2.3.2.2. Analysis of Samples and Indices Used for Biochemical Variables

Hemoglobin level was determined on-site, immediately after data collection using a spectrophotometer. The absorbance of samples collected during the day was measured for hemoglobin level determination. The cut-off used for determining the presence of anemia, classification of public health significance of anemia and thalassemia are presented in Tables 15 to 17.

Table 15. Hemoglobin values below which anemia is likely to be present in populations at sea level (WHO, 1972)

Age/Sex/Physiological State	Normal Hemoglobin Level (g/dL)
Children 5 mos - 6 yrs	11
Children 6.1 - 14 yrs	12
Adult males	13
Adult females (non-pregnant)	12
Adult females (pregnant)	11

Table 16. Proposed classification of public health significance of anemia in populations on the basis of prevalence estimated from blood levels of hemoglobin (WHO, 1992)

Category of public health significance	Prevalence of anemia
Low	1.0 – 9.9
Moderate	10.0 – 39.9
High	≥ 40.0

Table 17. Guidelines used for the interpretation of thalassemia

Clinical Picture	Hematological Findings and Hemoglobin Pattern Analysis
α-thalassemias	
Heterozygous α ⁺ thalassemia or α-thalassemia minima	Hb normal, MCH < 27 pg, normal hemoglobin pattern
Homozygous α ⁺ thalassemia or α-thalassemia minor	Hb normal or low, MCH < 26 pg, normal hemoglobin pattern
Heterozygous α ⁰ thalassemia or α-thalassemia minor	Hb normal or low, MCH < 24 pg, normal hemoglobin pattern
Mixed heterozygosity, α ⁺ /α ⁰ thalassemia or HbH disease	Hb 8-10 g/dL, MCH < 22 pg, Hb H ~10-20%
Homozygous α ⁰ thalassemia or Hb Bart's hydropsfetalis	Hb < 6 g/dL, MCH < 20 pg, Hb Bart's 80-90%, Hb Portland- 10-20%, Hb H < 1%
β-thalassemia	
Heterozygous β thalassemia or β -thalassemia minor	Hb 9-15 (M) or 9-13 (F) g/dL, MCV 55-75 fl, MCH 19-25 pg, HbA2 > 3.2%, HbF 0.5-6%
Homozygous β thalassemia or β -thalassemia major	Hb < 7 g/dL, MCV 50-60 fl, MCH 14-20 pg, HbA2 variable, HbF 70-90%
Mild homozygous β-thalassemia intermedia	Hb 6-10 g/dL, MCV 55-70 fl, MCH 15-23 pg, HbA2 variable, HbF up to 100%

Table 18. Guidelines used for the interpretation of plasma vitamin A level

Classification Level	Plasma Retinol	
	µg/dL	(umol/L)
Deficient	<10	< 0.35
Low	10 - 19	0.35 - 0.69
Acceptable	20 - 49	0.70-1.74
High	≥ 50	≥ 1.75

WHO/UNICEF/HKI/IVACG (1982)

Table 19. Prevalence cut-offs to define vitamin A deficiency in a population and its level of public health significance

Magnitude and severity	Serum or plasma retinol (<0.70 umol/L (<20 ug/dL) in preschool children or pregnant women ^a	
Mild		2% - 9.9%
Moderate		10% - 19.9% ^b
Severe		≥ 20%

^a Source: (WHO, 1996) children 6- 1 months of age. As there is no WHO recommended cut-off for serum retinol in pregnant women, the cut-off for children was used

^b The moderate range includes, at its midpoint, the minimum prevalence of 15% currently recommended by the Micronutrient Forum./International Vitamin A Consultative Group (IVACG) as the cut-off at or above which vitamin A deficiency should be considered a problem of public health significance among preschool children (Sommer & Davidson, 2002). The distribution of prevalence cut-offs for pregnant women is provisional.

Table 20. Epidemiological criteria for assessing iodine nutrition based on median urinary iodine concentrations in school-aged children (WHO/UNICEF/ICCIDD 2001)

Urinary Iodine Excretion (UIE) (ug/L)	Iodine Intake	Iodine Nutrition
< 20	Insufficient	Severe iodine deficiency
20-49	Insufficient	Moderate iodine deficiency
50-99	Insufficient	Mild iodine deficiency
100-199	Adequate	Optimal
200-299	More than adequate	Risk of iodine-induced hyperthyroidism within 5-10 years following introduction of iodized salt in susceptible groups
≥ 300	Excessive	Risk of adverse health consequences (iodine-induced hyperthyroidism, autoimmune thyroid disease)

Table 21. Epidemiological criteria for assessing iodine nutrition based on urinary iodine concentrations of pregnant women (WHO, UNICEF, ICCIDD, 2007)

Median UIE (ug/L)	Iodine Intake
< 150	Insufficient
150 – 249	Adequate
250 – 299	Above requirements
≥ 300	Excessive

Table 22. Cut-off points for vitamin D levels

Vitamin D (nmol/L)	Classification
<50	Deficient
50-74.9	Insufficient
≥75	Sufficient

2.3.3. Clinical and Health

2.3.3.1. Method of Data Collection

The face-to-face interview was conducted to obtain information on the smoking and alcohol consumption behavior and physical activity of the respondents. Personal and family history of various diseases and risk factors such as stroke, heart disease, diabetes, obesity, hypertension, peripheral vascular disease, liver disease, asthma, cancer, arthritis and osteoporosis were asked.

Blood pressure level was measured using a non-mercurial sphygmomanometer and stethoscope, following standard procedure. Measurements were taken twice.

Blood samples were drawn by venipuncture after 10-12 hours of overnight fasting to determine fasting blood sugar (FBS). Blood lipid levels (total cholesterol, low density lipoprotein cholesterol, high density lipoprotein cholesterol and triglycerides) were likewise determined.

The vacutainer tubes with lithium heparin were used for fasting blood sugar testing and plain tubes were used for the sample used for the lipid profile determination. The blood samples were stored in an ice chest with ice, centrifuged to separate the plasma, packed, labeled properly and stored at -20 degrees Celsius until a schedule of transport and analysis in the laboratory.



Estimation of urinary sodium and creatinine using spot urine samples was also done. Study participants 18 years and above were instructed to collect 30 to 40 mL of midstream urine of their

second void morning urination. Specimens were labeled, sealed using paraffin and stored under 2-8 degrees Celsius prior to analysis. Collection of urine for determination of urinary sodium and creatinine was done only for NCR.

Samples were run using an enzymatic method and ion-selective electrode in order to determine creatinine and sodium concentrations, respectively. The 24-hour urinary sodium excretion was determined using Tanaka's equation.

The actual data collection flow for the clinical and health component is illustrated in Figure 4.

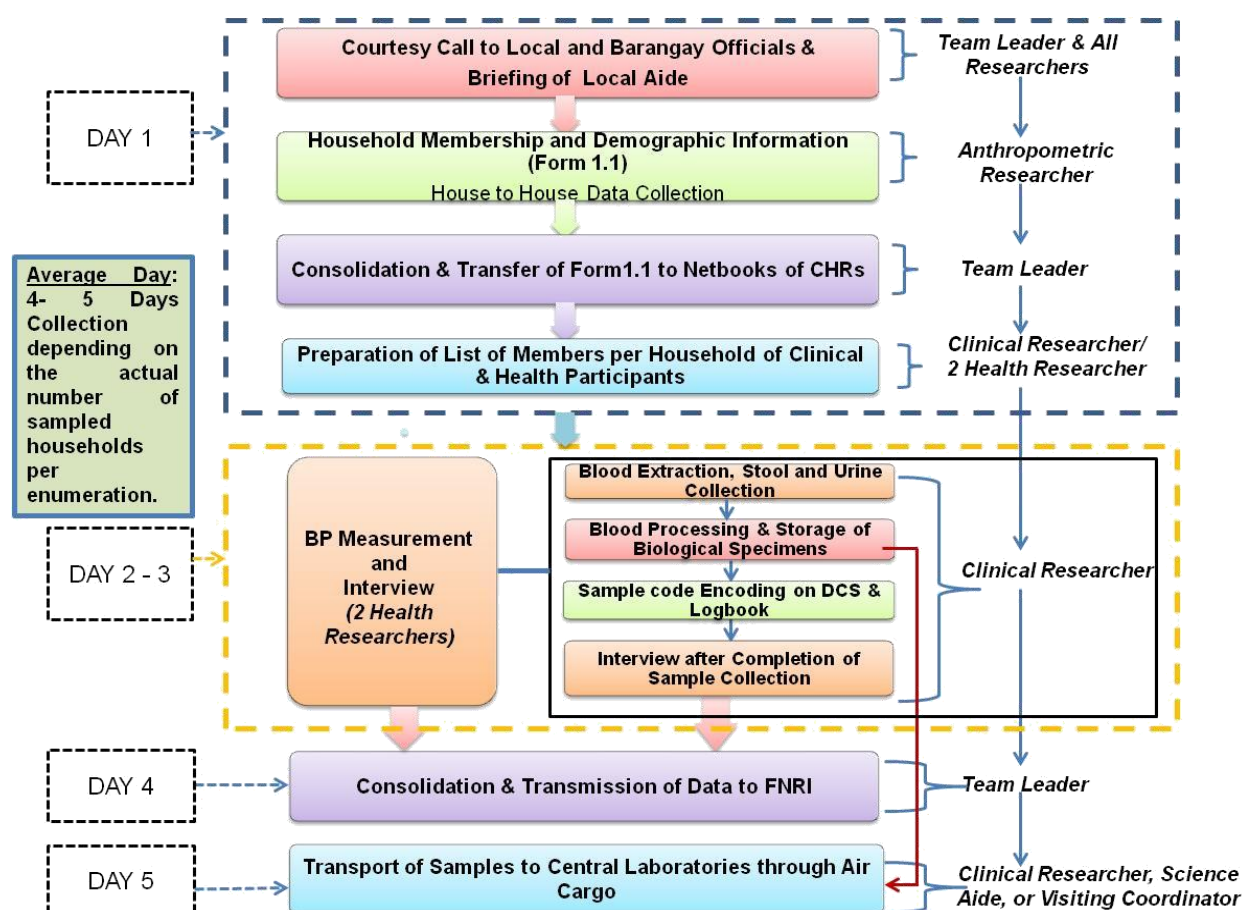


Figure 4. Actual data collection flow for the clinical and health component.

2.3.3.2. Analysis of Clinical and Health Variables

The laboratories that processed the results for the FBS, lipid profile and urine sodium and creatinine underwent the process set by the Bidding and Awards Committee (BAC) of the Institute. Samples for lipid profiling were analyzed in accordance with the Lipid Standardization Program of the Centers for Disease Control Prevention (CDC). The samples were analyzed by Hi-Precision Diagnostics LaboratoryTM. Urine collected from subjects 18 years old and above were examined for

random urine creatinine and random urine sodium (ISE) by the American Bio-clinical Laboratories, International™.

Enzymatic calorimetric method was used using Roche COBAS Integra and Hitachi 912. The guidelines and cut-off points used for the clinical and health variables are presented in Tables 25 and 26.

Blood pressure is the pressure that the heart produces when it pumps blood through the network of tubes or arteries that transports blood around the body. It is expressed using two numbers. The top number is termed as the systolic pressure and the bottom number is the diastolic pressure.

Hypertension or high blood pressure is a significant risk factor of cardiovascular diseases.

Table 23. Blood pressure classification (JNC VII, 2003)

Classification	Systolic BP (SBP) (mmHg)		Diastolic BP (DBP) (mmHg)
Normal	<120	and	<80
High Normal	120-129	or	80-84
Pre-hypertension	130-139	or	85-89
Hypertension	≥140	or	≥90

Table 24. Blood pressure classification (JNC VIII, 2013)

Classification	Systolic BP (SBP) (mmHg)		Diastolic BP (DBP) (mmHg)
Normal	<140	and	<90
Hypertension	≥140	or	≥90

Lipid profile was determined using the cut-offs based on the NCEP ATP III, as presented in Tables 25 to 28. Dyslipidemia, a component of metabolic disorder, is characterized by a high level of low-density lipoprotein (LDL-c), low level high-density lipoprotein and elevated levels of total cholesterol and triglyceride.

Table 25. Cut-off points for total cholesterol (NCEP ATP III)³

Classification	Cut-off points (mg/dL)
Desirable	<200
Borderline High	200-239
High	≥240

³National Cholesterol Education Program, Third Report of the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) or NCEP-ATP III

Table 26. Cut-off points for low-density lipoprotein (NCEP ATP III)

Classification	Cut-off points (mg/dL)
Desirable	<130
Borderline High	130-159
High	≥160

Table 27. Cut-off points for high-density lipoprotein (NCEP ATP III)

Classification	Cut-off points (mg/dL)
Low	<40
Borderline Low	40-59
Desirable	≥60

Table 28. Cut-off points for triglycerides (NCEP ATP III)

Classification	Cut-off points (mg/dL)
Desirable	<150
Borderline High	150-199
High	200-399
Very High	≥400

A high fasting blood sugar is indicative of diabetes. Diabetes is the eighth leading cause of death among Filipino adults⁴. It can exacerbate pre-existing diseases or lead to serious complications of heart disease, kidney failure, leg and foot amputations blindness that often result in death or disability.

Table 29. Cut-off points for fasting blood sugar

Classification	Cut-off points (mg/dL)	
	WHO and IDF ⁵	Philippine CPG ⁶
Desirable	<110	<100
Impaired	110-125	100-125
High	≥126	≥ 126

Table 30. Reference range for random urine creatinine and random urine sodium (ISE) (ABC Int'l)⁷

Procedure	Reference Range
Special Chemistry Random Urine Creatinine	3.54-24.6 mmol/L
Electrolytes Random Urine Sodium (ISE)	40-220 mmol/L

⁴ (Department of Health, 2009)⁵ International Diabetes Federation⁶ Clinical Practice Guideline⁷ American Bio-clinical Laboratories, Int'l.

Lifestyle-related variables such as smoking, smokeless smoking, alcohol drinking, binge drinking and physical inactivity were operationally defined using WHO guidelines. These are considered as modifiable risk factors for non-communicable diseases (NCDs). Non-communicable diseases accounted for 67 percent of total deaths in the Philippines in 2012.

Table 31. Operational definition of smoking⁸status (WHO STEPS Surveillance Manual)

Smoking Status	Definition
Current smokers	Those who smoke during the time of the survey either on a “daily” basis (at least one cigarette a day) or on a regular/occasional smoking or those who do not smoke daily but who smoke at least weekly or those who smoke less often than weekly.
Former smokers	Those who have ever smoked in the past year prior to survey whether in a daily basis or an aggregate lifetime consumption of at least 100 cigarettes but not daily.
Never smokers	Those individuals who have never smoked at all

Table 32. Operational definition of smokeless smoking⁹status

Smoking Status	Definition
Current smokeless smokers	Those who smoke during the time of the survey either on a “daily” basis (smokeless tobacco) or on a regular/occasional smoking or those who do not smoke daily but who smoke at least weekly or those who smoke less often than weekly.
Former smokeless smokers	Those who have ever smoked in the past year prior to survey whether in a daily basis or an aggregate lifetime consumption of at least 100 cigarettes but not daily.
Never smokeless smokers	Those individuals who have never smoked at all

Table 33. Operational definition of reported exposure to secondhand smoke (SHS)

Place of reported exposure to SHS	Definition
At home	Number of days the respondent was exposed to secondhand smoke at home in the past seven (7) days
Outside Home	Number of days the respondent was exposed to secondhand smoke in closed areas in the workplace (in the building, work area or a specific office) in the past seven (7) days

⁸Smoking: commercial/ manufactured cigarettes, hand-rolled cigarettes, pipes full of tobacco, cigars/ cheroots/ cigarillos

⁹Smokeless smoking: snuff, chewing tobacco, betel

Table 34. Operational definition of alcohol consumption (WHO, 2014)

Alcohol Consumption Status	Definition
Lifetime abstainers	People who have never consumed alcohol
Former drinkers	People who have previously consumed alcohol, but have not done so in the previous 12-month period
Current drinkers	People who were currently consuming alcohol during the survey period

Table 35. Operational definition of binge drinking (WHO, 2008)

Binge Drinking Status	Definition
For males	Drinking five (5) or more standard drinks ¹⁰ in a row
For females	Drinking four (4) or more standard drinks in a row

Standard Drink	ml	ABV (Alcohol by Volume)
1 - Bottle of beer	330	2%–12%
1/2 - Glass of wine	125	9%–16%
1 - Bottle of alcomix	330	5%
1 - Jigger/ shot glass of liqueurs	30	15%–55%
1 - Jigger/ shot glass of tequila	30	32%–60%
1 - Jigger/ shot glass of brandy	30	35%–60%
1 - Jigger/ shot glass of rum	30	37.5%–80%
1 - Jigger/ shot glass of gin	30	40%–50%
1 - Jigger/ shot glass of whisky	30	40%–55%
1 - Glass of tuba	250	4%
1 - Jigger/ shot glass of lambanog	30	80-90 proof (40%)
1 - Jigger/ shot glass of Tapuy (rice wine)	30	14%

Table 36. Operational definition of insufficiently physically active (WHO STEPS Surveillance Manual)

Definition
A person not meeting any of the following criteria is considered as physically inactive or insufficiently physically active and therefore at risk of chronic disease:
- 3 or more days of vigorous-intensity activity of at least 20 minutes per day; OR
- 5 or more days of moderate intensity activity or walking of at least 30 minutes per day.

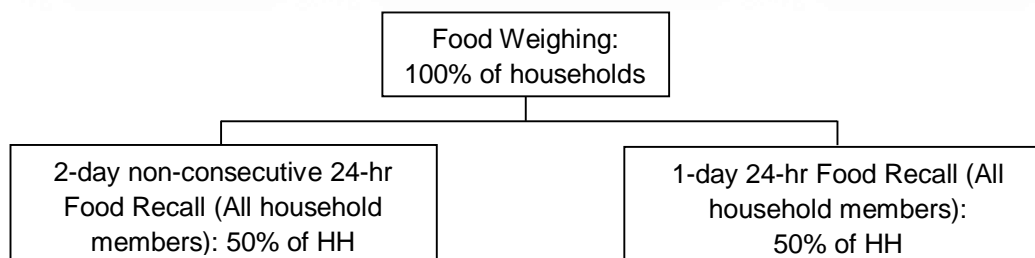
¹⁰Standard drink: any drink that contains a specific grams of “pure” alcohol regardless of size; contains approximately the same amount of alcohol and counts as a single drink

2.3.4. Dietary

2.3.4.1. Method of Data Collection

One-day food weighing was done to measure food consumption on the household level using a digital dietary balance or the Sartorius AZ 4101TM. Standard food weighing procedures and techniques were followed. Food weighing method collected data on all meals (breakfast, lunch, dinner and snacks) prepared and cooked in the house for all the household members.

Food consumption at the individual level was obtained by face-to-face interview using a 24-hour Food Recall Form.



Two types of 24-hour food recall were collected from the household members. The 2-day non-consecutive 24 hour food recall was obtained from 50 percent of the total households in the EA and a 1-day 24-hour food recall was obtained from the remaining 50 percent. All members of the households were interviewed for the two different types of food recall.

2.3.4.2. Analysis of Dietary Data

The Dietary Evaluation System is used to analyze food consumed in the household and individual level. Other tools used in the dietary evaluation are the Food Composition Library and the Philippine Recommended Energy and Nutrient Intake (RENI), 2002 edition & Philippine Dietary Reference Intake (PDRI), 2015. The Food Composition Library estimates the energy and nutrient intake from food consumed while the RENI/PDRI is used to determine the adequacy of the nutrient intake.

Variable	Definition
As Purchased (AP)	A form of food as sold in the market or picked from the garden, and includes peelings, bones, shells and other inedible parts
As Purchased at Retail (AP_Ret)	A form of food in which processed foods are converted to a form that can be utilized by the agricultural sectors
Per Capita Food/ Nutrient Intake	Average amount of food and nutrient eaten by each member of the sample population, without consideration of age, sex and psychological status
Leftovers	Food items cooked/ raw, weighed during the survey period which can still be eaten usually after survey period
Plate-waste	Edible portions of food which are left on the dining table or on the plates after the family has finished eating and are usually given to household pets or discarded
Given-out	The amount of food cooked or raw previously weighed for household consumption, but is given away to other persons of other families outside the households

2.3.5. Socioeconomic

2.3.5.1. Method of Data Collection

The face-to-face interview was done to gather data on the socioeconomic variables. The respondent identified the characteristics of dwelling units such as structural materials and type of dwelling unit while some household characteristics were based on the respondent's answer such as the following: sources of drinking water, methods used to assure safety of drinking water, if there is any, and type of fuel used, among others.



2.3.6. Food Security

2.3.6.1. Method of Data Collection



The face-to-face interview was done to collect data for this component. The interview questions were read in verbatim by the researcher.

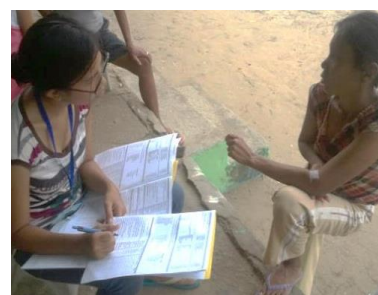
2.3.6.2. Analysis of Food Security Data

The Household Food Security Interview Guide is composed of two sets: the Household Food Access¹¹ and Household Dietary Diversity¹² (HDD) and Food Frequency¹³ (WFP- FCS). Household Food Access (HFA) assesses the prevalence and magnitude of household food insecurity. It is also used to describe the different dimensions of food insecurity: availability, sufficiency and adequacy. The HDD, on the other hand, assesses household's economic access to food at the same time describes the food access of households in terms of type/variety, frequency of consumption; and mechanisms of how food was accessed or secured.

2.3.7. Government Program Participation of Individuals and Households

2.3.7.1. Method of Data Collection

The face-to-face interview was done to collect data on the variables for the GP component. Secondary sources of data, such as immunization/ ECCD cards or baby books, birth certificates, PhilHealth IDs were used to verify answers of respondents.



2.3.8. Maternal Health and Nutrition

2.3.8.1. Method of Data Collection

The face to face interview was conducted to gather data for this component. The eligible respondents for this module were biological mothers with children 0-36 months old (whether pregnant, lactating or neither pregnant nor lactating) and all currently pregnant women (whether first time or not).

2.3.9. Infant and Young Child Feeding

2.3.9.1. Method of Data Collection

The face-to-face interview was done to collect data for this component.



¹¹Coates, Swindale, & Bilinsky, 2007

¹²Food and Agriculture Organization, 2010

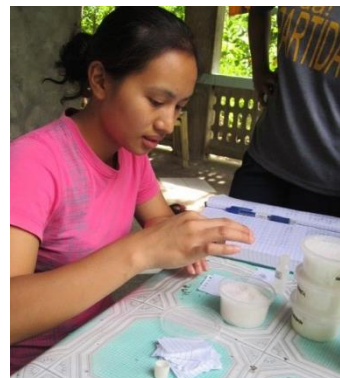
¹³World Food Programme, 2008

2.3.10. Household Awareness and Usage of Iodized Salt, Nutrition Label and Nutrition Facts

2.3.10.1. Method of Data Collection

The face-to-face interview and actual, on-site salt testing was done to collect pertinent data for this component.

Actual salt testing was done using the MBI™ Kit¹⁴ to test the presence of iodine by evidence of change in color upon addition of the solution. The iodine content in salt samples will be measured using WYD Iodine Checker.



2.3.10.2. Salt Sample Analysis

The color kit¹⁵ used for the rapid salt testing kit or the MBI Kit is illustrated in Figure 5.

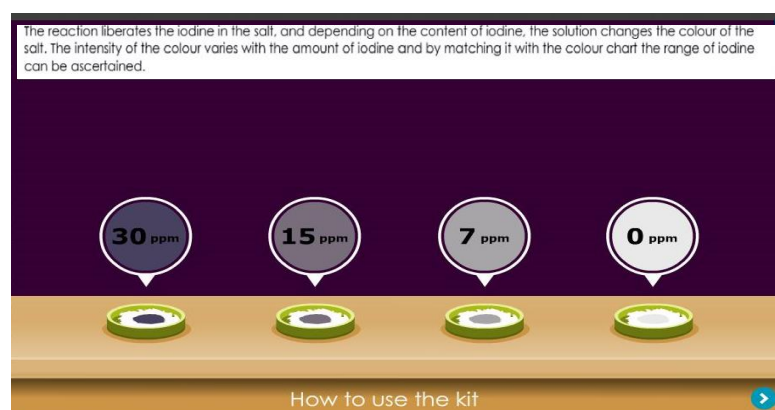


Figure 5. Screenshot of the color chart of the MBI Kit

WYD Iodine checker machine

The WYD Iodine Checker is a simple, single wavelength spectrophotometer used for the measurement of iodine level in salt. Its functionality is based on the “luminosity” principle.

A fixed amount of iodized salt is dissolved in water, then sulfuric acid and potassium iodide are added. The iodine reacts with starch to produce a blue color. The degree of color as measured by iodine checker is proportional to the content of iodine.



¹⁴MBI Kits, International 85 G.N. Chetty Road, Third Floor, T. Neger-Chennai-600 017 India

¹⁵ (MBI Kits International, 2013)

2.4 Survey Tools

2.4.1. Interview Schedule

The 2013 Survey Interview Schedules consisted of eight booklets, one for each component and six loose forms. The booklets and forms are listed in Table and the actual interview guides used are compiled in Annex 1.

The NNS interview schedules were reviewed during a workshop held at Club Balai Isabel in Talisay, Batangas on October 3-4, 2012. These were translated from English to Filipino.

Table 37. List of booklets and forms used in the 8th NNS: Philippines, 2013

Booklet No./ Form	Content
Booklet 1	Household
Form 1.1	Household Membership and Demographic Information
Form 1.2	Household and Other Demographic Information
Form 1.3	Government Program Participation of Households
Form 1.4	Household Awareness and Usage of Iodized Salt
Form 1.5	Household Food Security
Form 1.6	Household Dietary Diversity and Food Frequency
Booklet 2	Anthropometry and Other Information of All Household Members
Form 2.1	Measurement of All Household Members
Form 2.2	Other Information of All Household Members
Form 2.3	Other Information of Women 15-45 Years Old
Booklet 3	Mothers With Youngest Child, 0-36 Months and Pregnant Women
Form 3.1	Maternal Health and Nutrition (For all mothers with children 0-36 months and pregnant women)
Booklet 4A	Children, 0-23 Months
Form 4.1	Birthweight and Related Information of Children, 0-47 Months
Form 4.2	Government Program Participation of Children, 0-71 Months
Form 4.3	Infant and Young Child Feeding Practices of Children, 0-23 Months
Booklet 4B	Children, 24-71 Months
Form 4.1	Birthweight and Related Information of Children, 0-47 Months
Form 4.2	Government Program Participation of Children, 0-71 Months
Loose Forms	
Form 4.4A	Government Program Participation of Children, 6-12 Years Old
Form 4.4B	Government Program Participation of Youth Members, 10-25 Years Old
Form 4.4C	Government Program Participation of Elderly, 60 Years Old and Above
Form 4.5	Sun Exposure of Members, 13 Years Old and Above
Form 4.6	Government Program Participation of Members with Disability, 0-59 Years Old
Form 4.7	Participation in PhilHealth Services of Working Household Members
Form 4.8	Knowledge on Micronutrient
Booklet 5	Household Food Consumption
Form 5.1	Household Membership (for Dietary)
Form 5.2	Household Food Inventory
Form 5.3	Household Food Record
Booklet 6A	Individual Food Consumption, All Children, 0-36 Months (≤ 3.0 Years Old)
Form 6.1A	24-Hour Food Recall
Form 6.1B	Checklist of Food and Liquid Intake
Form 6.2	Awareness and Usage of Health Supplements
Form 6.3	Intake and Usage of Salt, Fats and Oils
Form 6.4	Food Frequency Questionnaire (For All Household Members)
Booklet 6B	Individual Food Consumption, All Children, >3.0 (37 Months)- 17.99 Years Old
Form 6.1	24-Hour Food Recall
Form 6.2	Awareness and Usage of Health Supplements
Form 6.3	Intake and Usage of Salt, Fats and Oils

Booklet No./ Form	Content
Form 6.4	Food Frequency Questionnaire
Booklet 6C	Individual Food Consumption, Adult Members, 18 years old and Above
Form 6.1	24-Hour Food Recall
Form 6.3	Intake and Usage of Salt, Fats and Oils
Booklet 7A	Clinical and Health Form – Members, 10 Years Old and Over
Form 7.1	Blood Pressure and Biochemical Specimen
Booklet 7B	Clinical and Health Questionnaire- Children, 10-19.99 Years Old
Form 7.2	Smoking and Alcohol Consumption
Booklet 7C	Clinical and Health Questionnaire- Adults, 20 Years Old and Over
Form 7.2	Smoking and Alcohol Consumption
Form 7.3	Physical Activity and Food Frequency of 20 Years Old and Above
Form 7.4	History, Signs and Symptoms of Various Diseases of 20 Years Old and Above
Form 7.5	National Nutrition and Health Survey (NNHeS)
Form 7.6	Awareness and Usage of Health Supplements, Adults 20 Years Old and Over
Booklet 8	Biochemical Information, All Members
Form 8.1	Biochemical Information of All Members For Mobile Team
Booklet 6A	Individual Food Consumption, All Children, 0-36 Months (≤ 3.0 Years Old) - For Mobile Team
Form 6.1A	24-Hour Food Recall
Form 6.1B	Checklist of Food and Liquid Intake
Booklet 7A	Clinical and Health Form – Members, 10 Years Old and Over (For Mobile)
Form 7.1	Blood Pressure and Biochemical Specimen

2.4.2. Electronic Data Collection System (e-DCS)

The electronic Data Collection System or e-DCS is a web-based data collection system developed for the NNS. The team leaders and researchers were provided with one netbook each. The primary objective of the e-DCS was to facilitate data collection, editing, and transmission of data.

The use of computer-based interview schedule replaced the traditional pen-and-paper method of data collection. However, for components with measurements such as anthropometry, blood pressure and hemoglobin levels, data were written in a logbook before data entry. Data on food weighing and 24-hour food recall was likewise gathered using pen-and-paper method.

The e-DCS was designed to produce an electronic data, to minimize errors through automatic validation of inputs such as range checking and use of skipping patterns; and to transmit data electronically from the survey area to the central database in the FNRI office. Thus, data cleaning and validation could start immediately and results are released promptly.

The basic steps on using the e-DCS are presented in Figure 6 and 7.

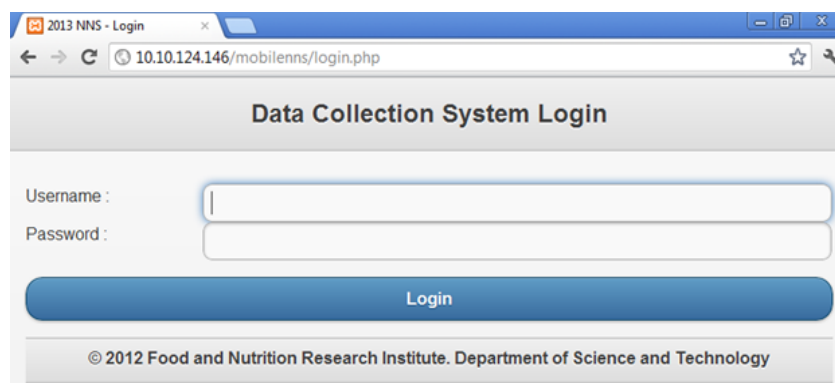


Figure 6. Screenshot of log-in function of e-DCS

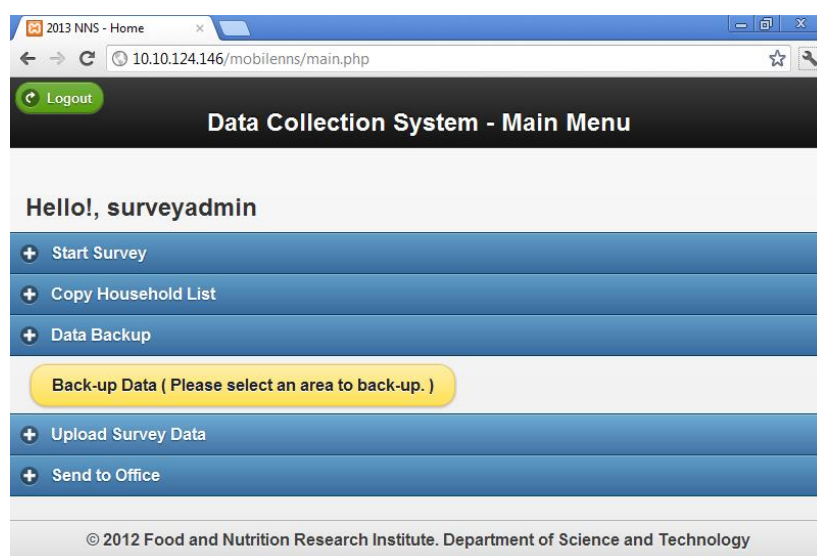


Figure 7. Screenshot of main menu of e-DCS

After logging in to the system, the user would be led to the main menu window. The Main Menu of the e-DCS consists of five functions. These functions are Start Survey, Copy Household List, Data Backup, Upload Survey Data and Send to Office.

The Start Survey function allows the researcher to begin, continue or complete an interview and review existing data or information. The Copy Household List enables the TL to distribute the household membership and demographic information form to the component researchers. The Data Backup/ Copy Component Survey Data functions to produce a duplicate copy of the collected data of each component researcher and TL as backup copy and saved in a USB flash drive and memory card. The Upload Survey Data option uploads the data to the central database at FNRI before transmission of data to the FNRI via the internet, which serves as the function of the Send to Office option. The last two main menu options were accessed by the TLs only.

2.5 Ethics Review

The copy of the project proposal entitled “8th National Nutrition Survey, Philippines 2013” was submitted to the FNRI Institutional Ethics Review Committee (FNRI-IERC) for clearance on January 22, 2013.

However, since it is a legal mandate of FNRI to define the nutritional status of the Filipino population, ethical clearance for the said project is not necessary. Nevertheless, FNRI recognizes the importance of the protection and respect for the respondents and pledged to adhere to the code of ethics and practices during the implementation of the survey.

Before the conduct of the survey, informed consent forms were signed by the respondents to affirm their voluntary participation to the survey and to inform them of the purpose of the survey, the manner by which the data will be collected and the assurance that confidentiality will be maintained.

Furthermore, respondent’s participation is strictly voluntary and they may withdraw their participation at any time.

2.6 NSCB/PSA Review and Approval

The 8th NNS Questionnaires were submitted to NSCB/PSA for review and approval. It was reviewed by Ms. Alma S. Bello, OIC of Statistical Programs, Policies and Advocacy Division and was recommended for approval by Ms. Regina S. Reyes, Director of Statistical Programs, Policies and Standards Office on June 19, 2013. Ms. Lina V. Castro, OIC for the Office of the Secretary General gave the clearance number and expiration date for the above-mentioned project.

2.7 Preparatory Survey Activities

2.7.1. Organization

The 2013 National Nutrition Survey was conducted by the Institute from June 15, 2013 to April 5, 2014. Prior to actual data collection, several activities were conducted. The Survey was primarily funded by the Philippine Government. In addition to the funds provided by the Government, the Department of Health, PhilHealth, World Food Programme and Nestle gave financial assistance as well.

A stakeholders’ meeting was conducted in August 15, 2012 to present the plans and preparations for the 8th NNS, request inputs or suggestions from partners in the government, private and international organizations and lobby for support and possible collaborations. The meeting was initiated by the Nutritional Assessment and Monitoring Division (NAMD). Participants of the meeting

included representatives from government agencies, international organizations, private sectors and other stakeholders.

Prior to actual data collection, coordination in the form of pre-survey conferences were held to gather first-hand information on actual conditions of survey areas, to brief and discuss with local chief executives (LCEs) the survey objectives, procedures and methods, to seek assistance and support for accommodation and transportation arrangements of the survey teams as well as hiring of local survey aides, to seek clearance of the peace and order situation and security measures, among others.

During the regional coordination, the FNRI representative met with the DOST Regional Director and the Provincial Science and Technology Directors (PSTDs) and Regional Nutrition Program Coordinator (RNPC) and the Provincial Nutrition Action Officers (PNAO) to discuss the NNS. Provincial Coordinators (PCs) were identified, followed by the signing of the Terms of Reference (ToR). Pre-survey notes and information and letters for the LCEs (Appendix 1) were endorsed to the PC for distribution to the Municipal Nutrition Action Officers (MNAOs).

The PC/MNAOs and the FNRI Team Coordinator met for a briefing and discussion of survey needs. A communication scheme was set for ease of coordination between FNRI and the respective MNAOs. The MNAOs were tasked to coordinate with a Barangay Focal Person, usually the Barangay Chairman or the Kagawad on Health and the needs of the survey team was then endorsed (Figure 8).

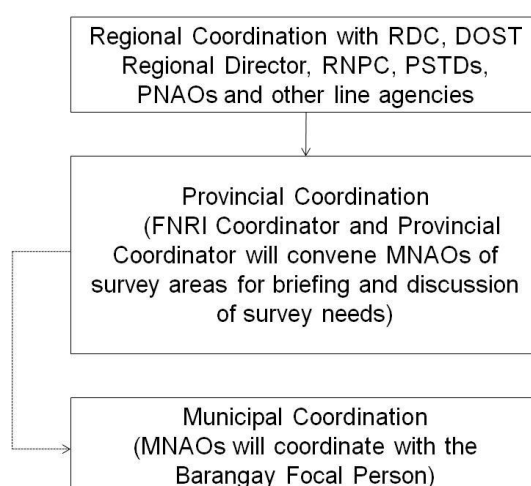


Figure 8. Flow chart for 8th NNS pre-survey coordination: Philippines, 2013

The 8th NNS is headed by the FNRI Director (Figure 9). The Project Leader is the Chief Science Research Specialist of NAMD assisted by the Head of Operations and Head of Data

Management. The Head of Operations manages the administrative and technical aspects of the survey and the Head of Data Management is in-charge of the data processing and analysis.

Under the supervision of the Heads of Operation and Data Management are two types of survey teams—the Regular Survey Team (RST) and the Mobile Survey Team (MST). The RSTs were assigned to collect data on all components of one replicate. The MST was tasked to collect data on the Anthropometric component, blood pressure measurement and interview-based components for the three remaining replicates. Replicates are discussed in the section for Sampling Design, Scope and Coverage.

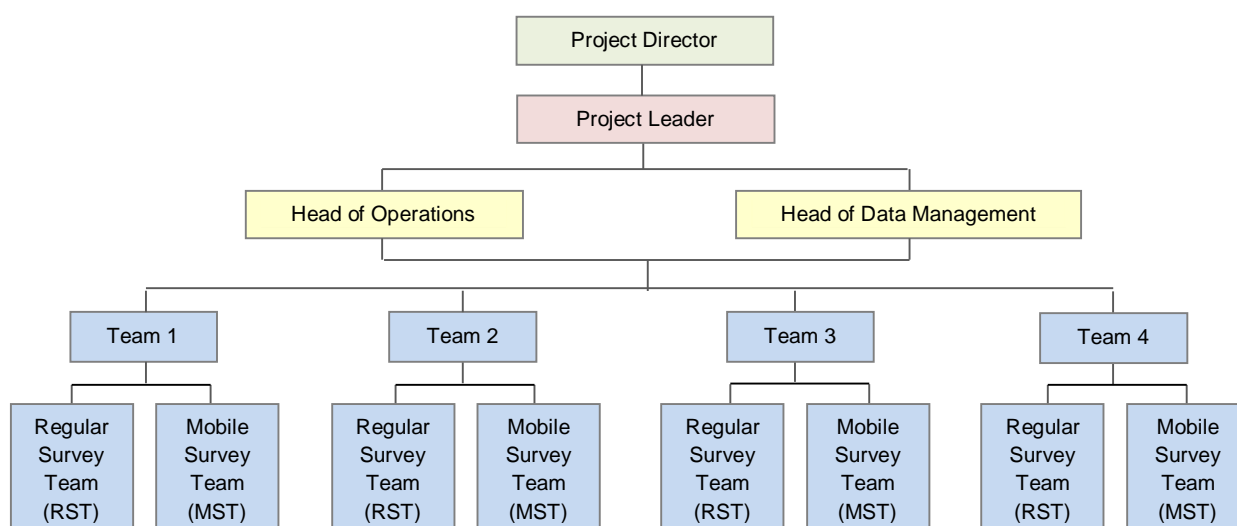


Figure 9. Organizational structure of 8thNNS: Philippines, 2013

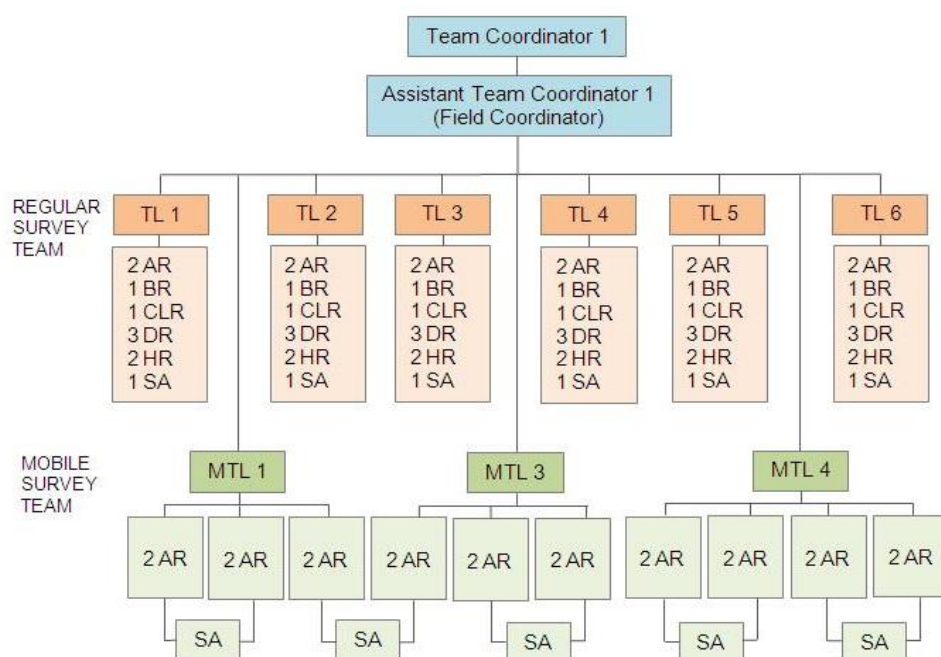


Figure 10. Team composition for the 8thNNS: Philippines, 2013

A total of 388 personnel were distributed to four major teams. Each major team is headed by a team coordinator (TC) and two assistant team coordinators (ATCs). One major team was composed of six RSTs and 10 MSTs. Each RST was composed of one (1) Team Leader (TL), two Anthropometric Researchers (ARs), one Biochemical Researcher (BR), one Clinical Researcher (CLR), three Dietary Researchers (DRs), two Health Researchers (HR) and one Science Aide (SA). An MST was composed of one mobile TL (MTL), two ARs and one SA. The Mobile TL handled three to four MSTs (Figure 10).

2.7.2. Pre-testing of Interview Schedule and Electronic Data Collection System

The interview schedule underwent a series of pre-testing on the FNRI premises with employees from other divisions as respondents. The survey staff was assigned to pre-test each interview guide in their own barangays. After which, suggestions for the improvement of the modules were relayed to the team coordinators. Upon deliberation and approval of corrections, the changes were relayed to the e-DCS team for input to the system.

For the e-DCS, two separate pre-testing activities were conducted in 2012 to test its functionality, assess the accuracy and precision of data collected and identify possible improvements of the system. The pre-testing activities were conducted in Brgy. Bagumbayan, Taguig City from October 9 to 11, 2012 and Brgy Salinas IV, Bacoar, Cavite from October 22 to 28, 2012. The survey team was composed of 15 personnel: team coordinator, assistant coordinator, eight data collectors, survey aide, an Information Technology (IT) support, a Statistician and two local aides. The data collectors were composed of two ARs, two CRs, two DRs, one BR and one HR.

2.7.3. Field Practicum

Prior to actual field data collection, a field practicum was conducted in two barangays in Lucban, Quezon (Ayuti and Barangay 5 Poblacion) from December 7 to 13, 2012. The objective was to simulate the process of actual data collection using the e-DCS and assigned workload of the Researchers in terms of household coverage in a day per survey area.

2.7.4. Pooling, Training and Hiring of Field Personnel

The qualification standards for potential field personnel varied depending on the Survey component. Generally, potential regular and mobile team leaders, anthropometric and dietary researchers should be BS Nutrition and Dietetics/ BS Nutrition graduates. It is imperative for Biochemical (BRs) and Clinical Researchers (CRs) to be Registered Medical Technologists (RMTs). Job postings for the position were coursed through the FNRI official website, online job-finding sites

and through social networking sites (SNS). Previous NNS researchers were also notified via short messaging service (SMS). The interested applicants were required to submit Personal Data Sheet (PDS) and take a qualifying examination. Those who qualified based on the examination results were chosen to undergo voluntary trainings. However, not all applicants who underwent training were automatically accepted as field researchers.

Trainings of field personnel per survey component were held simultaneously in five batches from March to July 2013 and July 2014 at FNRI Bicutan, Davao and Zamboanga City. A separate training for the BaSulTa team was held in March 2014 in Zamboanga City. An average of 12 days was allotted for each batch of trainees, including one day of field practicum.

The training program included lecture-demonstrations, diagnostic tests and quizzes, group work (role- playing and presentation), one day practicum and Blood Pressure Certification Class, specifically for the Clinical and Health Researchers. The culmination of the training is a one-day field practicum held at Bicutan, Taguig City. The trainees were expected to apply the knowledge, skills, techniques and attitudes they learned during the training. They were assigned one household each.

Trainees who passed the evaluation were hired as field researchers.

2.8 Actual Field Survey



A courtesy call to the local officials was done upon arrival in the province or municipality. This is to formally announce the entry of the research teams to the areas and to pay courtesy to the local officials.

The first day of data collection was allotted for briefing of the local aides on their responsibilities and obligations as well as the remuneration scheme for the services rendered and location of households.

During location, the survey objectives, methods and procedures were explained to the household heads. Consent was obtained in writing from the study participants prior to actual data collection. The Informed Consent Form contains all the components of the 8th NNS and detailed data collection procedures to be carried out on the study participants. Also indicated in the consent form is non-disclosure of information on the corresponding identity of the subject. Also indicated in the consent is the provision of hemoglobin, FBS and lipid profile results to the respondents through the Barangay Captain or Rural Health Units.



The RST was composed of 10 personnel, including the Science Aide. This team collects data on all of the components. A survey of one enumeration area for the RST averages seven days, depending on the number of households.

After the location of households and acquisition of informed consent, the anthropometric researcher will collect the household membership data. The AR links the household membership form to the other researchers to determine eligible respondents for their respective components.

The anthropometric researcher or AR is assigned to obtain weight, height, waist and hip measurements as well as conduct interview on household information, Government Program Participation (GP), Infant and Young Child Feeding (IYCF), Maternal Health and Nutrition and Food Security.

The Biochemical Researcher or BR is tasked on blood extraction for members 6 months to 18 years of age as well as casual morning urine collection. The Clinical Researcher or CR is responsible for blood extraction from members above 18 years of age, in a fasting state.

The Dietary Researcher is assigned on food weighing and 24-hour food recall. The day recalled for the 24-hour food recall should not be the same day as food weighing. The Health Researcher or HR is tasked to conduct interviews on smoking and alcohol consumption, physical activity, Food Frequency Questionnaire (FFQ) and NNHeS interview guide.

The Team Leader (TL) is tasked to review, edit, consolidate and create back-up for the data collected and transmission of data to the central office.

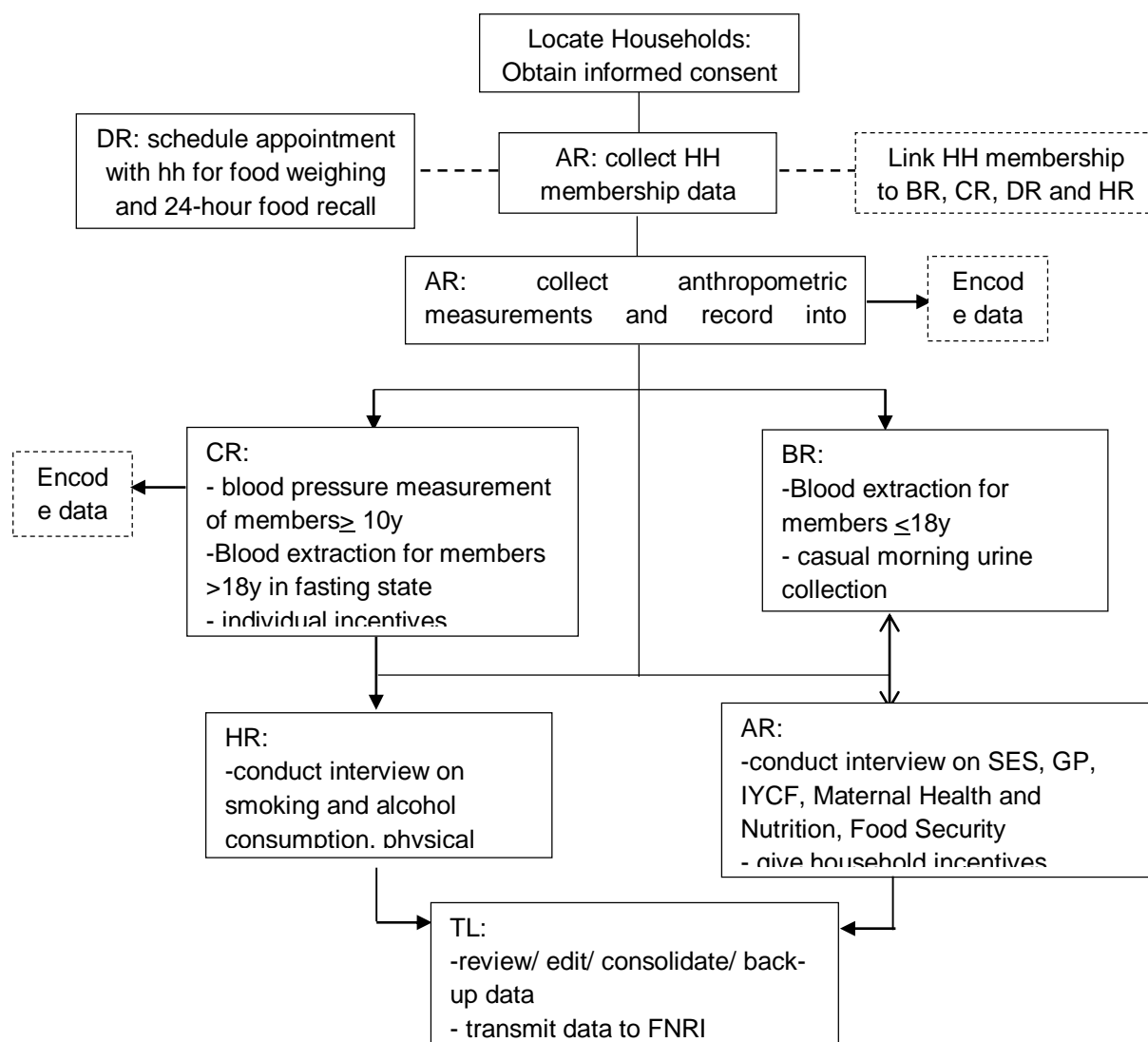


Figure 11. Flow of data collection for the Regular Survey Team: 2013 NNS

One mobile survey team was composed of four members: team leader, two anthropometric researchers and one Science Aide. This team collects data on Anthropometry, Health, GP, IYCF, Maternal Health and Nutrition and Food Security.

The researchers were assigned to obtain anthropometric measurements and conduct interviews on SES, Government Program Participation, IYCF, Maternal Health and Nutrition and Food Security as well as measurement of blood pressure of members 10 years of age and above collection of casual morning urine of members 6 months to 2 years of age, females of reproductive age and pregnant and lactating women.

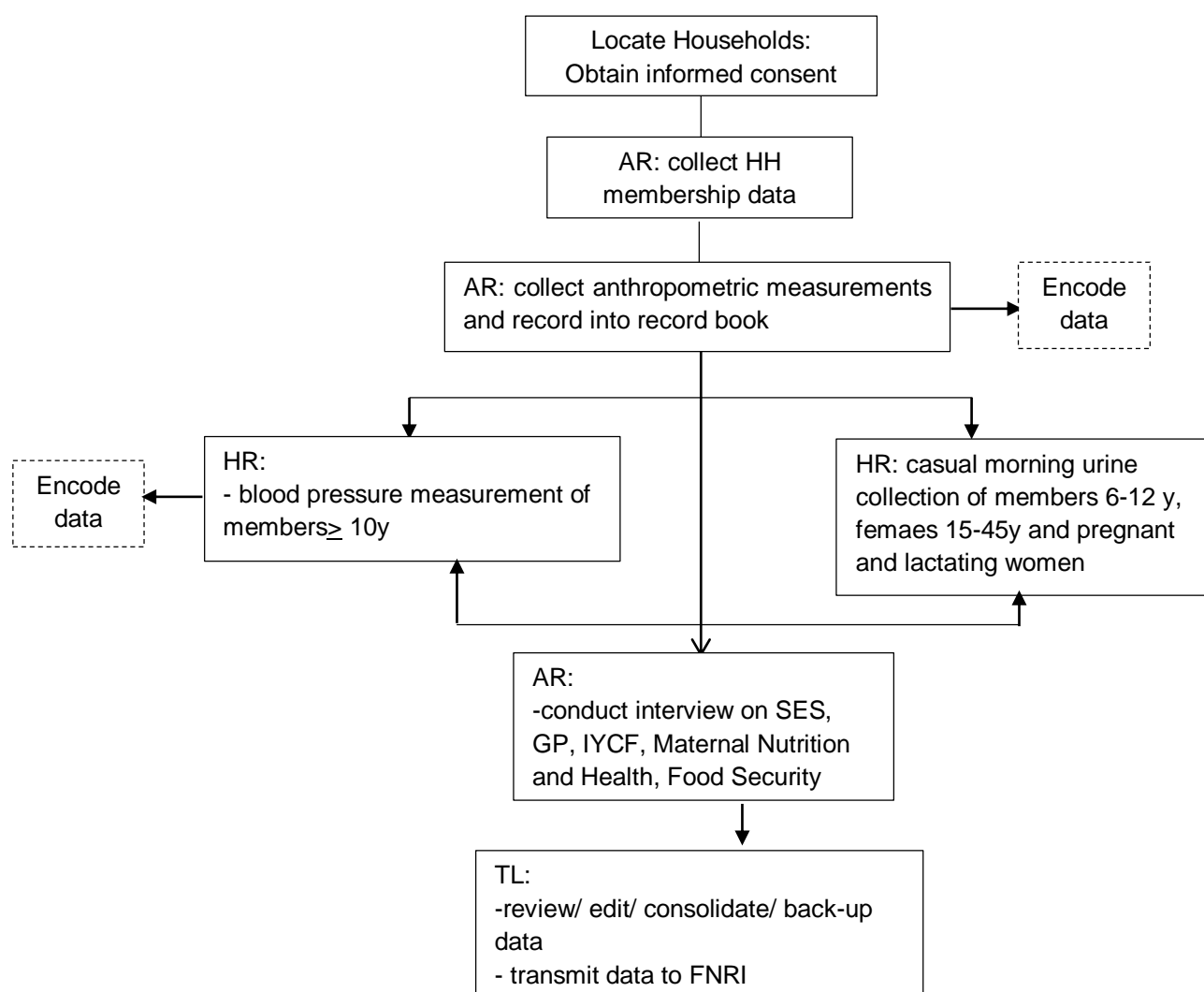


Figure 12. Flow of data collection for Mobile Survey Team: 2013 NNS

2.9 Data Monitoring System

The data transmitted to FNRI was monitored using the DCS Data Transmission Monitoring System. The DCS Data Transmission Monitoring System is a web application designed to monitor not only the data transmission but also the data collection of the 8th NNS. It reports the household coverage status per enumeration areas. The target and actual number of household covered, and also the date of the end of data collection per enumeration area was reflected in the system with the corresponding name of the team, sub-team and team leader.

The DCS Data Transmission Monitoring System is a user-friendly monitoring tool (Figure 13). It has data filter that is helpful on selecting the items or areas to be viewed or reported by the system. The results can be filtered by region, provinces, team, group and percentage of coverage (e.g. Less than 25%, less than 50%, less than 75% or 100%).

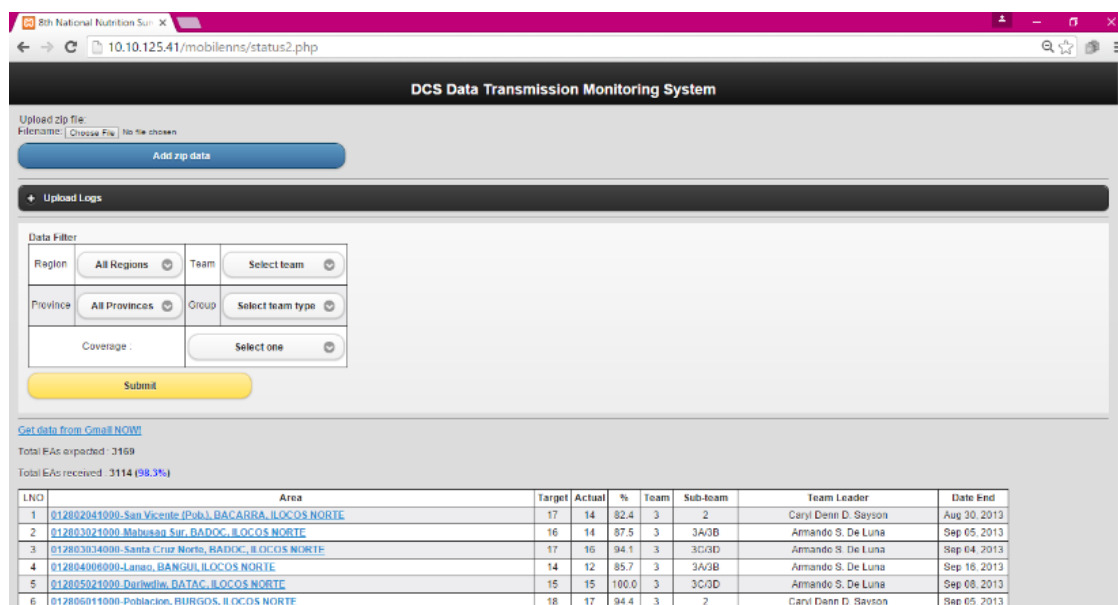


Figure 13. Screenshot of the DCS DATA Transmission Monitoring System

2.10 Data Processing and Statistical Analysis

Cleaning and validation of data immediately start upon receipt of transmitted data in the central database. This is applicable on all interview-based modules.

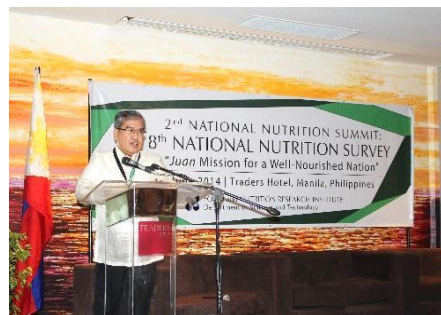
For the validation of measurements of height, weight, waist-hip circumferences, hemoglobin and blood pressure, a printed output of the encoded measurements was manually checked against the manually recorded measurements in a logbook. Several rounds of alternating manual and machine validations were done until desired consistency and completeness of data is achieved.

The dietary component was the only component which used the paper and pen method. The dietary forms, for both food weighing and 24-hour food recall, were pre-edited in the field by the respective team leaders. The more meticulous editing of the forms was done in the central office, after which data are encoded by hired dietary encoders. Several rounds of alternating manual and machine validations were likewise done by printing of proof lists which are printed output of the encoded data and checking for errors and ensuring consistency. Necessary corrections were encoded in the program until data is completely cleaned and validated.

Sampling weights were adjusted for non-response and were post-stratified based on the population projection to compensate for intercensal changes in the structure of the population. STATA version 12 was used for the statistical analysis. Descriptive statistics like mean, median and percentage, range, and confidence intervals were generated. The STATA software was utilized to take into account the design effect of the Survey for the generation of the coefficient of variation values.

2.11 Reporting and Dissemination

The initial results of the 2013 NNS were released during the 2nd National Nutrition Summit held at the Traders Hotel, Manila on June 26, 2014 entitled “Zooming-in on the 8th National Nutrition Survey (NNS)- 2013”. Results on the nutritional status of children 0-5 years old, adults, anemia, clinical and health, pregnant and lactating women and the prevalence of smoking among adults were presented to representatives from national line agencies, non-government organizations as well as international and development partners. Likewise, during the 40th FNRI Seminar Series held in July 3 and 4, 2014 at the FNRI Building with the theme “Kalamidad Paghandaan: Gutom at Malnutrisyon Agapan!”, the results were presented to a wider audience—nutritionist dietitians, nutrition action officers, food industry professionals, food technologists, barangay nutrition scholars and health workers, local government health workers and students.



The FNRI, in partnership with DOST Regional Offices and the National Nutrition Council of the Department of Health (NNC-DOH), organized post-survey conferences and seminars to disseminate survey results in the regional and provincial level. The regional disseminations were held simultaneously from September to November 2014 (Table 5).

Table 38. Schedule of regional dissemination

Region	Date	No. of Participants	Venue
Ilocos	September 18, 2014	37	Sea and Sky Hotel and Restaurant, San Fernando, La Union
Cagayan Valley	November 20, 2014	59	Hotel Carmelita, Tuguegarao City
Central Luzon	September 2, 2014	78	DOH Region 3 Conference Room, City of San Fernando, Pampanga
CALABARZON	October 17, 2014	52	Traders Hotel, Pasay City
MIMAROPA	October 16, 2014	46	Traders Hotel, Pasay City
Bicol Region	October 10, 2014	39	Kanzo Hall and Restaurant, Legazpi City, Albay
Western Visayas	September 19, 2014	58	Sarabia Manor Hotel and Convention Center, Iloilo City
Central Visayas	October 14, 2014	38	Golden Peak Hotel & Suites, Cebu City
Eastern Visayas	November 4, 2014	51	Janikka Food Center, Tacloban City

Region	Date	No. of Participants	Venue
Zamboanga Peninsula	October 7, 2014	79	Grand Astoria Hotel, Zamboanga City
Northern Mindanao	October 8, 2014	72	The VIP Hotel, Cagayan de Oro City
Davao	October 9, 2014	50	The Ritz Hotel at Garden Oases, Davao City
SOCCSKSARGEN	November 18, 2014	63	FB Hotel & Convention Center, Koronadal City
NCR	October 15, 2014	50	Traders Hotel, Pasay City
CAR	October 9, 2014	67	El Cielito Inn, Baguio City
ARMM	November 20, 2014	45	EM Manor Hotel, Cotabato City
Caraga	October 3, 2014	64	Y Hotel, CARAGA



During the conduct of the second installment of the 2nd National Nutrition Summit held at Dusit Thani Manila, Ayala Center, Makati, on December 10, 2014, the results of the prevalence of iodine deficiency disorder (IDD), the iodine content of household salts in the Philippines and the preliminary results of the dietary survey on household food consumption were presented.

The results of the 8th NNS were also presented during strategic plannings, seminars of LGU Nutritionist-Dietitians, pre-launch events of private companies, quarterly meetings of universities and colleges, stakeholder fora and other venues, as requested by different agencies.

Participants of the dissemination included regional and provincial planners from all sectors: policy-making, health and nutrition, agriculture, labor and development, researchers, academe, media, nutrition advocates and other stakeholders.

NNS Flyers containing the results of all the different components were also prepared, published and distributed to target users in government and private sectors.

The presentations were open to public access via the world wide web through the FNRI website and the NNC website among others.

3. PROFILE OF RESPONDENTS

3.1 Age and Sex

Age and sex are two important demographic variables used in characterizing a population as these two are associated with morbidity, mortality, fertility among others.

The study population of the 8th National Nutrition Survey comprised of 172,323 individuals. The proportion of males (50.5%) is almost equal to the proportion of females (49.5%). Disaggregating by age group, about 60 percent of the population was adults 20 years and over. Twenty percent were children and teenagers 10.08-19.9 years old and the remaining 20 percent accounted for the infants and preschoolers 0-60 months and school children 5.08-10.0 years old (Table 39).

Table 39. Distribution of population by age and sex: Philippines, 2013

Age Group	All		Males		Females	
	n	%	n	%	n	%
Philippines	172,323	100.0	87,083	50.5	85,240	49.5
0-5 years old	14,575	11.6	7,541	11.8	7,034	11.3
• 0-5m	1,300	8.8	668	8.8	632	8.9
• 6-11m	1,353	9.5	681	9.4	672	9.6
• 12-23m	2,633	18.3	1,367	18.4	1,266	18.2
• 24-35m	2,585	17.8	1,389	18.5	1,196	17.1
• 36-47m	3,159	21.9	1,591	21.4	1,568	22.5
• 48-60m	3,545	23.6	1,845	23.5	1,700	23.8
5.08-10 years old	17,889	10.8	9,322	11.0	8,567	10.5
• 5.08-5.9 y	3,129	17.7	1,624	17.8	1,505	17.7
• 6.0-6.99 y	3,389	19.1	1,780	19.2	1,609	19.0
• 7.0-7.99 y	3,506	19.6	1,796	19.2	1,710	20.0
• 8.0-8.99 y	3,657	20.5	1,903	20.4	1,754	20.5
• 9.0-10.0 y	4,208	23.1	2,219	23.4	1,989	22.8
10.08-19 years old	39,838	20.6	20,583	20.9	19,255	20.3
• 10.08-12.99 y	11,616	28.9	5,938	29.0	5,678	28.9
• 13.0-15.99 y	12,851	32.1	6,578	31.9	6,273	32.2
• 16.0-17.99 y	7,804	19.8	4,059	19.7	3,745	19.9
• 18.0-19.99 y	7,567	19.2	4,008	19.4	3,559	18.9
20 years old and over	100,021	57.1	49,637	56.2	50,384	57.9
• 20.0-29.99 y	25,697	30.4	13,799	31.0	11,898	29.9
• 30.0-39.99 y	19,246	24.2	9,450	24.6	9,796	23.7
• 40.0-49.99 y	20,656	19.3	10,368	19.6	10,288	19.0
• 50.0-59.99	17,260	13.6	8,510	13.6	8,750	13.6
• 60.0-69.99 y	10,040	7.6	4,684	7.2	5,356	8.0
• ≥ 70.0 y	7,122	4.9	2,826	3.9	4,296	5.8

3.2 Physiologic States

The physiologic state of a woman can influence her nutritional status. During pregnancy and lactation, the nutritional requirements increase, which, if not met, may have ill consequences on both health of the mother and the baby.

Women of reproductive age (WRA) are considered a vulnerable group because of the health issues that occur during pregnancy and lactation. According to the WHO, maternal mortality is the second biggest among this group. Women die due to pregnancy and childhood complications with 99% of deaths occurring in developing countries.

Table 40. Distribution of population by physiological status: Philippines, 2013

Physiological Status	n	%
13-19 years old	13,577	100.0
NP/NL	13,120	96.7
Pregnant	214	1.6
Lactating	243	1.8
20 years old and above	50,384	100.0
NP/NL	46,774	91.5
Pregnant	1,089	2.7
Lactating	2,521	5.8
Women of Reproductive Age	37,406	100.0
15-20y	10,929	25.2
21-25y	6,547	18.8
26-30y	4,745	16.0
31-35y	4,739	14.7
36-40y	5,165	13.3
41-45y	5,281	12.0

The vast majority of females 13-19 years of age were non-pregnant/ non-lactating (NP/NL) at 96.7 percent. The remaining 3.3 percent was composed of pregnant and lactating women. Females 20 years and over had a lower proportion of NP/NL (91.5%) and a higher proportion of pregnant (2.7%) and lactating (5.8%) than their younger counterparts.

One-fourth (25.2%) of the population of women of reproductive age were 15-20 years of age, showing a young WRA population. About three-fifths of the WRA were aged 30 years and below.

3.3 Educational Attainment

Education is an important factor that influences a person's behavior and attitudes. Generally, better educated individuals are more knowledgeable about proper health, nutrition and sanitation practices. They are also more likely to have better health-seeking behaviors.

In terms of educational attainment, the majority of the respondents, 3 years old and above, were elementary undergraduates, accounting for one-fourth of the population (25.2%) followed by high school graduates (18.7%). Disaggregating by sex, most of the males and females were elementary undergraduates followed by high school graduates. Results implied that majority of Filipinos had formal education.

Table 41. Distribution of population, 3 years old and above, by educational attainment: Philippines, 2013 (n=164,027)

Education	All		Males		Females	
	n	%	n	%	n	%
No Grade Completed	10,252	7.2	5,207	7.3	5,045	7.1
Elementary Undergraduate	43,907	25.2	23,968	27.2	19,939	23.1
Elementary Graduate	23,088	12.4	11,403	12.4	11,685	12.4
HS Undergraduate	22,727	13.3	11,506	13.5	11,221	13.1
HS Graduate	29,047	18.7	14,132	17.8	14,915	19.6
Vocational Undergraduate	1,111	0.8	720	1.0	391	0.6
Vocational Graduate	4,816	3.2	2,825	3.7	1,991	2.7
College Undergraduate	13,707	9.0	6,600	8.5	7,107	9.5
College Graduate	15,193	10.2	6,330	8.4	8,863	11.9
Others (SPED, Arabic Schooling, Others)	179	0.1	89	0.1	90	0.1

3.4 Civil Status

Marital status, especially among women, may be associated to health through differences in sexual exposure, pregnancy, childbearing and lactation which are factors of importance in certain diseases.

Overall, most of the Filipinos, 10 years old and above, were single (46.5%) and 39.0 percent were married. Higher proportions of males than females were single. There were a relatively higher proportion of single males (50.1%) than single females (42.8%).

**Table 42. Distribution of population, 10 years old and above, by civil status and sex:
Philippines, 2013 (n=140,166)**

Civil Status	All		Males		Females	
	n	%	n	%	n	%
Single	63,750	46.5	34,832	50.1	28,918	42.8
Married	56,308	39.0	28,194	38.7	28,114	39.4
Live-in	9,155	7.8	4,540	7.6	4,615	8.0
Widow/Widower	8,327	4.6	1,776	2.0	6,551	7.3
Separated/Annulled/Divorced	2,626	2.1	1,053	1.6	1,573	2.5

3.5 Occupation and Work Status

More than half of Filipinos aged 10 years and above (54.2%) were not working.

**Table 43. Distribution of working individuals, 10 years and over, by type of occupation:
Philippines, 2013 (n=61,858)**

Type of Occupation	n	%
Special Occupations (AFP personnel, unclassified jobs)	587	1.0
Officials of Government and Special Interest Organizations, Corporate Executives, Managers, Managing Proprietors and Supervisors	5,451	8.8
Professional	3,673	6.6
Technicians and Associate Professionals	2,592	4.9
Clerks	3,373	6.6
Service Workers and Shop and Market Sales Workers	6,009	10.7
Farmers, Forestry Workers and Fishermen	15,708	20.2
Craft and Related Trades Workers	5,251	9.0
Plant and Machine Operators and Assemblers	5,438	9.7
Elementary Occupation: Laborers and Unskilled Workers	13,776	22.5

As per the 1992 Philippines Standard Occupation Code (PSOC), occupation was grouped into 10 major groups. The highest proportion of the respondents 10 years and over were laborers and unskilled workers (22.5%) followed by farmers, forestry workers and fishermen (20.2%). Service workers accounted for 10.7% of working individuals 10 years and above (Table 43).

Among those who were non-working (Table 44), about 30% had no occupation, one-fourth (24.8%) were housekeepers and most were students (42.6%).

Table 44. Distribution of population by non-working status among individuals aged 10 years and over: Philippines, 2013 (n=78,340)

Non-employment status	n	%
Housekeeper ¹⁶	19,276	24.8
Student	34,186	42.6
Pensioner	2,642	2.9
No occupation	22,236	29.7

3.6 Marginalized Population

Indigenous Peoples

In the Philippines, the Indigenous People (IP) account for roughly 10-15 per cent¹⁷ of the total population. Cariño (2012) reports that no accurate figures on the population of indigenous peoples exist because no formal census has been done. That is, in national census surveys, there is an absence of questions on indigenous ethnic identity.

Table 45. Percentage of indigenous people population by region: Philippines, 2013

Region	n	%
Philippines	172,323	3.8
NCR	16,422	0.2
CAR	7,288	21.6
Ilocos	10,725	1.7
Cagayan Valley	8,256	9.3
Central Luzon	14,543	2.9
CALABARZON	16,297	1.1
MIMAROPA	7,229	5.4
Bicol	11,133	0.2
Western Visayas	11,993	3.0
Central Visayas	12,063	4.4
Eastern Visayas	9,764	0.3
Zamboanga Peninsula	7,169	9.1
Northern Mindanao	8,347	6.1
Davao	8,488	7.4
SOCCKSARGEN	8,679	8.8
ARMM	6,345	15.6
Caraga	7,582	2.8

¹⁶Housewives/ husbands with no occupation but main task is housekeeping activities (MOI, 2013)

¹⁷ (Cariño, 2012)

The indigenous peoples are considered to be among the poorest and most disadvantaged group in the country as evidenced by high illiteracy and unemployment rates and poverty incidence. The nature of their settlements, which is remote, deprives them of access to basic services and thus, a high prevalence of morbidity, mortality and malnutrition might exist.

Results indicated that 3.8% of the population identified themselves as an IP.

Geographically Isolated and Disadvantaged Areas (GIDAs)

The GIDA was established through the Department of Health Administrative Order No. 185 in 2004 in support for Local Health Systems Development. It was instituted to recognize the deterioration of primary health care services, especially in geographically isolated and depressed communities as a consequence of devolution of the health care delivery system.

Table 46. Percentage of households residing in municipalities classified as GIDAs in the Philippines by region, 2013

Region	n	%
Philippines	35,825	4.6
NCR	3,468	0.0
CAR	1,471	8.4
Ilocos	2,220	17.3
Cagayan Valley	1,853	10.7
Central Luzon	2,985	4.6
CALABARZON	3,468	4.7
MIMAROPA	1,565	2.1
Bicol	2,203	4.9
Western Visayas	2,517	9.8
Central Visayas	2,542	0.0
Eastern Visayas	2,050	0.0
Zamboanga Peninsula	1,470	0.6
Northern Mindanao	1,734	23.4
Davao	1,827	5.5
SOCCSKSARGEN	1,784	4.0
ARMM	1,090	0.0
Caraga	1,578	4.1

The DOH defines GIDAs as communities with a marginalized population physically and socio-economically separated from the mainstream society characterized by physical factors and socioeconomic factors. The physical factors include isolation due to distance, weather conditions and transportation difficulties (island, upland, lowland, landlocked, hard to reach and unserved/

underserved communities). Socioeconomic factors include high poverty incidence, presence of vulnerable sector, communities in or recovering from a situation of crisis or armed conflict.

Approximately 4.6 percent of the households residing in municipalities classified as GIDAs, where half or more than half of its barangays were identified as GIDAs, as a basis for classification.

3.7 Government Program Participation

3.7.1. PhilHealth

The National Health Insurance Program administered by the Philippine Health Insurance Corporation (PhilHealth) is mandated to provide health insurance coverage to all Filipinos and ensure affordable, acceptable, available and accessible health care services.

Table 47. Distribution of population, 15 years old and above, by PhilHealth membership and age group: Philippines, 2013

Age Group	Number of household members (n)	Principal Member (%)	PhilHealth Dependent (%)	Non-PhilHealth Member (%)
15-19 years old	19,050	0.8	48.2	51.1
20-59 years old	80,439	31.3	17.6	51.1
60 years old and above	16,741	25.9	27.0	47.1
All	116,230	26.1	23.2	50.6

In the Philippines, almost one-half (49.4%) of the population 15 years old and above were PhilHealth member.

Among household members 15 to 19 years old, more than half (51.1%) were non PhilHealth members and the other half were predominantly PhilHealth dependents (48.2%). Only 0.8% of the age group were principal members.

On the other hand, among household members belonging to the 20-59 age group or the working age group, about one third were principal members of PhilHealth (31.3%) and more than half (51.1%) were non-members. Only 17.6% were Philhealth dependents.

Half the senior citizen group or individuals aged 60 years and above was composed of non-PhilHealth members (47.1%). About one-fourth of them were the principal members (25.9%) and the remaining 27% were PhilHealth dependent.

3.7.2. Conditional Cash Transfer (CCT) or Pantawid Pamilyang Pilipino Program (4Ps)

The Pantawid Pamilyang Pilipino Program (4Ps) is a human development program of the national government that invests in the health and education of poor households particularly of children aged 0-18 years old. This program provides cash grants to beneficiaries upon compliance with a set of conditions required by the program. Its objectives include social assistance which is synonymous to short-term poverty alleviation and social development which is investing in human capital and a long-term solution.

As of June 25, 2014, the program has 4,090,667 registered households¹⁸ in 79 provinces covering 1484 municipalities and 143 cities in all 17 regions nationwide.

The results of the 8th NNS showed that of the households with members 18 years and below and pregnant women, about 22.3% were current recipients of the CCT program.

Table 48. Percentage of household currently beneficiaries of CCT program: Philippines, 2013

Region	n	%
PHILIPPINES	26,554	22.3
NCR	2,489	11.8
CAR	1,071	21.2
Ilocos	1,609	21.3
Cagayan Valley	1,325	14.7
Central Luzon	2,265	13.6
CALABARZON	2,564	14.0
MIMAROPA	1,168	32.1
Bicol	1,699	36.9
Western Visayas	1,764	25.3
Central Visayas	1,778	22.8
Eastern Visayas	1,511	34.3
Zamboanga Peninsula	1,130	43.9
Northern Mindanao	1,293	29.6
Davao	1,369	22.8
SOCCSKSARGEN	1,387	26.6
ARMM	958	35.4
CARAGA	1,174	37.5

¹⁸ (Department of Social Welfare and Development, Philippines, 2014)

4. SOCIOECONOMIC STATUS OF HOUSEHOLDS

4.1 Introduction

Household surveys in the Philippines without income and expenditure data are usually using asset based wealth index to disaggregate the survey results. The *2008 and 2013 National Demographic and Health Surveys* of the Philippine Statistics Authority and the *2011 Updating of the Nutritional Status of the Filipino Children and Other Population Groups* used wealth index in disaggregating survey results.

One of the main use of the Socioeconomic Component of the National Nutrition Survey is to classify the households by wealth index. Wealth index was computed based on principal component analysis of household assets, household characteristics, access to utilities and infrastructure variables.

The variables collected for the household information are the following: type of dwelling unit, tenure status of the house, tenure status of the lot, type of roof, type of wall, type of floor, number of bedrooms, type of fuel used, transport utilities used (bicycle, motorcycle, car/jeep/van, tractor, caritela, boat), presence of electricity in the household, functioning appliances (computer/laptop/tablet, telephone, cellphone/smartphone, television, radio/cassette recorder, VCD/DVD Player, Camera/Video Camera, Refrigerator/Freezer, Stove/Range/Microwave oven, Blender/food processor, electric generator, air-conditioner, washing machine, electric fan, sewing machine, piano/organ and wall clock).

Other household information collected are the presence of household help, type of drinking water, the main source of water for cooking and hand washing, type of toilet facility used, and type of garbage disposal system of the household.

4.2 Characteristics of Households

In the Philippines, the average size of a household is composed of five members and more than half (55.8%) of the households were single-family type of households. About one-third was extended two-families or more (29.4%). The most common type of dwelling unit in the Philippines is the single house or bungalow.

Table 49. Distribution of households by household characteristics: Philippines, 2013

Household Characteristics	Rural		Urban	All
	n		%	
Type of Household				
Single	2,148	6.1	5.9	6.0
2-person	3,144	9.2	8.4	8.8
Single family	19,973	57.6	54.1	55.8
Extended 2-family	8,486	22.9	25.2	24.1
Extended > 2-family	1,833	4.1	6.4	5.3
Type of Dwelling				
Single house	32,342	95.7	82.5	89.0
Duplex	1,490	1.9	8.4	5.2
Apartment/Condo	1,044	0.4	7.0	3.7
Commercial	74	0.1	0.4	0.2
Makeshift/Barong-Barong	619	2.0	1.6	1.8
Junk cart	4	0.0	0.02	0.01

4.2.1. Household Characteristics

Eighty-eight percent of the households in the Philippines had electricity. Most of the households in the country were 1 to 2 bedroom affairs (68.9%). One-fifth was 3 to 4 bedroom affairs (20.6%).

Overall, the majority of the roofs of the households were made of iron sheets (85.3%). The walls of most houses in the country were made up of strong materials (48.4%) followed by light materials (33.5%). The most common flooring material used by the households is plain cement (55.8%).

About one-third (34.6%) were living rent-free with the consent of parents and relatives or as caretakers of the house. Almost half (48.7%) of the households used wood as fuel for cooking, followed by LPG (32.5%).

Table 50. Distribution of households by housing characteristics: Philippines, 2013

Housing Characteristics	Rural		Urban	All
	n		%	
Electricity				
Yes	31,119	82.9	94.5	88.8
No	4,465	17.1	5.5	11.2
Number of bedrooms				
0	2,981	8.4	8.4	8.4
1 to 2	24,521	72.6	65.3	68.9
3 to 4	7,325	17.8	23.3	20.6
5 and above	757	1.2	3.0	2.1
Roof Materials				
Iron sheets	29,738	80.0	90.4	85.3
Tegula/tisa	177	0.4	0.8	0.6
Natural materials	4,818	18.2	5.1	11.5
Cement	633	0.9	3.1	2.0
Salvaged (scrap materials)	198	0.5	0.7	0.6
Wall materials				
Strong	15,989	37.9	58.6	48.4
Light	13,289	46.0	21.6	33.5
Combination	5,938	15.4	18.9	17.2
Salvaged	344	0.8	1.0	0.9
Floor materials				
Plain cement	19,318	52.7	58.9	55.8
Wood planks/ coco lumber /bamboo	8,902	30.4	13.6	21.8
Ceramic tiles/ vinyl/asphalt	4,555	7.5	21.8	14.8
Earth/sand	2,349	8.8	3.4	6.1
Marble/ parquet/ polished	440	0.7	2.4	1.5
Tenure status of house				
Own	28,585	85.5	72.3	78.8
Rent	1,863	1.6	11.5	6.6
Free-with consent	4,860	12.5	15.1	13.8
Free-without consent	257	0.5	1.1	0.8
Tenure status of lot				
Own	17,689	50.1	47.5	48.8
Rent	2,982	4.8	14.4	9.7
Free-with consent	12,645	40.7	28.7	34.6
Free-without consent	2,242	4.4	9.5	7.0
Fuel used for cooking				
Wood	19,508	72.3	26.0	48.7
LPG	9,711	12.6	51.7	32.5
Charcoal	5,498	14.1	17.6	15.9
Electricity	343	0.6	1.8	1.2
Kerosene	252	0.1	1.8	1.0
Natural gas	131	0.1	0.9	0.5
Biogas/Animal Dung	93	0.2	0.3	0.3

4.2.2. Household Health and Sanitation

Household health and sanitation is an indication of living status of the households. These include source of drinking water and hand washing water as well as toilet facilities. The most common source of drinking water was from improved sources.

The most common method to assure safety of drinking water was boiling (11.7%) and use of improvised filter (5.4%).

The most common source of water for cooking and hand washing was from improved sources. Eighty-five percent of the households in the Philippines had water-sealed toilets. The majority of the households with toilet facilities (80.0%) had exclusive use of their toilets.

Overall, the most common method of garbage disposal among households was a collection (48.5%) followed by burning (36.3%).

Table 51. Distribution of households by household health and sanitation: Philippines, 2013

Household Health and Sanitation		Rural	Urban	All
	n		%	
Source of drinking water				
Improved source				
Piped into dwelling	8,268	17.7	33.3	25.6
Piped to yard	1,151	3.7	2.6	3.2
Public tap	2,435	8.5	4.0	6.2
Tube well	6,170	23.0	8.5	15.6
Protected well	1,979	8.5	2.1	5.2
Protected spring	632	2.7	0.2	1.5
Rainwater collection	849	3.5	0.5	2.0
Unimproved source				
Unprotected well	401	1.8	0.2	1.0
Unprotected spring	3,777	14.8	2.6	8.6
Tanker truck	176	0.6	0.1	0.4
Surface water (lake, pond, stream etc)	109	0.4	0.2	0.3
Bottled/mineral water	151	0.6	0.09	0.3
Water treatment prior to drinking				
Boil	4,455	14.3	9.3	11.7
Add bleach/ chlorine	233	0.9	0.3	0.6
Use water filter	831	1.8	3.5	2.7
Improvised filter	1,994	7.1	3.7	5.4
Solar disinfection	15	0.03	0.04	0.04
Let it settle	358	1.2	0.8	1.0

Household Health and Sanitation		Rural	Urban	All
	n		%	
Source of cooking water				
Improved source				
Piped into a dwelling	14,526	24.3	68.1	46.6
Piped to the yard	1,427	4.1	3.9	4.0
Public tap	2,705	8.8	5.2	7.0
Tube well	7,605	27.0	12.4	19.6
Protected well	2,431	9.7	3.4	6.5
Protected spring	774	3.2	0.5	1.8
Rainwater collection	841	3.5	0.5	2.0
Unimproved source				
Unprotected well	517	2.2	0.5	1.3
Unprotected spring	3,798	14.9	2.6	8.6
Tanker truck	211	0.8	0.2	0.5
Surface water (lake, pond, stream, etc.)	104	0.26	0.37	0.3
Bottled/mineral water	183	0.7	0.1	0.4
Source of water for handwashing				
Improved source				
Piped into dwelling	14,697	24.4	69.6	47.4
Piped to yard	1,410	4.0	3.9	4.0
Public tap	2,667	8.7	5.2	6.9
Tube well	7,725	27.2	12.9	19.9
Protected well	2,488	9.9	3.5	6.6
Protected spring	823	2.42	0.5	1.9
Rainwater collection	830	3.42	0.5	1.9
Unimproved source				
Unprotected well	561	2.4	0.5	1.5
Unprotected spring	3,748	14.7	2.5	8.5
Tanker truck	236	0.9	0.2	0.5
Surface water (lake, pond, stream etc)	10	0.02	0.03	0.0
Bottled/mineral water	223	0.9	0.1	0.5
Type of toilet facility				
No toilet	2,878	10.2	4.9	7.5
Water-sealed	29,746	79.2	91.1	85.2
Not water-sealed	2,960	10.6	4.1	7.3
Ownership of toilet facility				
Exclusive	27,863	77.0	82.0	80.0
Shared with other households	4,501	12.0	13.3	12.6
Public use	342	0.9	0.9	0.9
Waste segregation				
Yes	20,626	55.8	59.7	57.8
No	14,958	44.2	40.3	42.2

Household Health and Sanitation		Rural	Urban	All
	n		%	
Method of garbage disposal				
Collect	15,037	19.5	76.5	48.5
Burn	14,339	55.9	17.5	36.3
Composting	9,085	36.0	8.7	22.1
Dumping	5,166	19.1	7.6	13.2

4.3 Household Possession

Household possession of vehicles and gadgets and appliances could also be proxy indicators of socioeconomic status.

The most common vehicle owned by households was the single motor (29.0%) followed by bicycle (18.4%). Moreover, the results showed that about three-fourth of the households own cellular phones/ smart phones (75.0%) and television (73.9%).

Table 52. Distribution of households by household possession: Philippines, 2013

Household Possession	Rural	Urban	All	
	n	%		
Ownership of vehicles				
Single motor	10,276	28.3	29.6	29.0
Bicycle	6,194	14.6	22.1	18.4
Car/jeep/van	2,531	4.3	11.2	7.8
Boat	1,062	4.1	1.2	2.6
Caritela	594	2.5	0.3	1.4
Tractor	352	1.3	0.4	0.9
Ownership of gadgets and appliances				
Cellular phones/ smart phones	26,027	66.6	83.1	75.0
Television	25,283	63.4	84.0	73.9
Electric fan	21,775	50.8	81.7	66.5
Wall clock	16,263	37.1	60.6	49.1
Radio/cassette recorder	13,599	34.9	43.6	39.3
VCD/DVD player/mini component/ karaoke	12,929	29.0	47.8	38.6
Refrigerator/freezer	11,761	24.3	46.6	35.7
Washing machine/dryer	8,430	14.4	38.8	26.8
Stove/range/microwave oven	7,737	12.7	36.7	24.9
Computer/laptop/playstation	5,935	7.9	26.7	17.4
Camera/videocamera	3,968	6.4	18.4	12.5
Food processor/blender	3,080	4.8	14.7	9.8
Air conditioner	2,325	3.0	12.5	7.8
Telephone (landline)	1,703	1.5	10.4	6.0
Sewing machine	1,572	3.4	6.0	4.7
Piano/organ	642	1.0	3.1	2.1
Electric generator	325	0.7	1.1	0.9

4.4 Wealth Index

Among households residing in rural areas, more than half were classified as poor. One-fifth belonged to the middle quintile (20.3%). Only about 21% were classified as rich. On the other hand, about 58% of the Filipinos living in urban areas were classified as affluent. About one-fifth (19.6%) belonged to the middle class and the remaining belonged to the poor and poorest categories.

Table 53. Distribution of households by wealth quintile, by region and place of residence: Philippines, 2013

	Wealth Quintile				
	Poorest	Poor	Middle	Rich	Richest
Philippines	20	20	20	20	20
Urbanity					
Rural	32.4	26.0	20.3	13.0	8.3
Urban	8.0	14.3	19.6	26.7	31.3
Region					
NCR	2.9	9.2	16.8	30.0	41.1
CAR	19.6	21.3	15.9	18.6	24.7
Ilocos	12.1	23.2	27.3	19.1	18.3
Cagayan Valley	15.3	25.3	26.3	18.9	14.2
Central Luzon	4.8	15.0	23.2	29.1	27.8
CALABARZON	7.5	14.8	20.2	27.1	30.4
MIMAROPA	33.8	22.5	20.8	14.6	8.3
Bicol	30.8	24.1	23.2	12.8	9.2
Western Visayas	29.7	28.1	20.1	12.7	9.5
Central Visayas	25.2	23.8	21.3	15.8	13.9
Eastern Visayas	36.3	26.8	17.8	10.8	8.4
Zamboanga Peninsula	43.7	22.6	14.5	11.4	7.9
Northern Mindanao	27.6	26.5	19.0	16.1	10.8
Davao	29.2	24.1	18.4	16.8	11.6
SOCCSKSARGEN	33.7	25.3	19.1	13.8	8.2
ARMM	71.2	16.4	7.8	3.3	1.3
Caraga	34.9	28.4	15.4	12.8	8.6

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B. Estimates of Sampling Error¹⁹

Table B.1 List of selected variables for sampling errors: Philippines, 2013

Component/Variable	Estimate	Population	No. of Replicate Covered
ANTHROPOMETRY			
0-60 months			
underweight	Proportion	All 0-60 months old children	4
stunting	Proportion	All 0-60 months old children	4
wasting	Proportion	All 0-60 months old children	4
overweight-for-height	Proportion	All 0-60 months old children	4
61-120 months			
underweight	Proportion	All 61-120 months old children	4
stunting	Proportion	All 61-120 months old children	4
wasting	Proportion	All 61-120 months old children	4
overweight/obese	Proportion	All 61-120 months old children	4
121-228 months			
stunting	Proportion	All 121-228 months old children	4
wasting	Proportion	All 121-228 months old children	4
overweight/obese	Proportion	All 121-228 months old children	4
20 years old & up			
CED	Proportion	All 20 years old and above adults	4
overweight/obese	Proportion	All 20 years old and above adults	4
Pregnant			
Nutritionally at-risk	Proportion	All pregnant women	4
Lactating			
CED	Proportion	All lactating mothers	4
overweight/obese	Proportion	All lactating mothers	4
Birthweight			
Low birth weight	Proportion	All 0-47 months old children	4
BIOCHEMICAL			
Anemia			
ALL	Proportion	All population groups	1
6 mo – 5 y, All	Proportion	All 6 months to 5 years old children	1
6 mo – 1 y	Proportion	All 6 months to 1 year old children	1
1 - 5 y	Proportion	All 1 to 5 years old children	1
6 – 12 y, All	Proportion	All 6 to 12 years old children	1
Male	Proportion	All 6 to 12 years old male children	1
Female	Proportion	All 6 to 12 years old female children	1
13 – 19 y, All	Proportion	All 13 to 19 years old adolescents	1
Male	Proportion	All 13 to 19 years old male adolescents	1
Female	Proportion	All 13 to 19 years old female adolescents	1
20 – 59 y, All	Proportion	All 20 to 59 years old adults	1
Male	Proportion	All 20 to 59 years old male adults	1
Female	Proportion	All 20 to 59 years old female adults	1
20 -39 y, All	Proportion	All 20 to 39 years old adults	1
Male	Proportion	All 20 to 39 years old male adults	1
Female	Proportion	All 20 to 39 years old female adults	1
40 - 59 y, All	Proportion	All 40 to 59 years old adults	1
Male	Proportion	All 40 to 59 years old male adults	1
Female	Proportion	All 40 to 59 years old female adults	1
≥ 60 y, All	Proportion	All 60 years old and above adults	1
Male	Proportion	All 60 years old and above male adults	1
Female	Proportion	All 60 years old and above female adults	1

¹⁹ (Philippine Statistics Authority (PSA), Philippines, and ICF International, 2014)

Component/Variable	Estimate	Population	No. of Replicate Covered
Pregnant	Proportion	All pregnant women	1
Lactating	Proportion	All lactating mothers	1
UIE			
6-12y	Proportion	All 6 to 12 years old children	4
13-19y	Proportion	All 13 to 19 years old adolescents	1
20-59y	Proportion	All 20 to 59 years old male adults	1
60&above	Proportion	All 60 years old and above adults	1
Pregnant	Proportion	All pregnant women	4
Lactating	Proportion	All lactating mothers	4
CLINICAL AND HEALTH			
Current Alcohol Drinkers			
10 - 19 y	Proportion	All 10 to 19 years old adolescents	1
20 y & above	Proportion	All 20 years old and above adults	1
Low Physical Activities	Proportion	All 20 years old and above adults	1
Current Smokers			
10 - 19 y	Proportion	All 10 to 19 years old adolescents	1
20 y & above	Proportion	All 20 years old and above adults	1
Hypertension	Proportion	All 20 years old and above adults	4
DIETARY (per capita intake)			
Total Food	Mean	All sample households	1
Energy	Mean	All sample households	1
Protien	Mean	All sample households	1
Iron	Mean	All sample households	1
Calcium	Mean	All sample households	1
Vitamin A	Mean	All sample households	1
Vitamin C	Mean	All sample households	1
Thiamin	Mean	All sample households	1
Niacin	Mean	All sample households	1
Riboflavin	Mean	All sample households	1
Fat	Mean	All sample households	1
Carbohydrates	Mean	All sample households	1
FOOD SECURITY			
DDS Score	Mean	All sample households	4
Food Consumption Score - Poor	Proportion	All sample households	4
Food Consumption Score - Borderline	Proportion	All sample households	4
Food Consumption Score - Acceptable	Proportion	All sample households	4
GOVERNMENT PROGRAM PARTICIPATION			
Household			
Food Production	Proportion	All sample households	4
Loans, Livelihood and Employment	Proportion	All sample households	4
CSAP	Proportion	All sample households	4
Botika ng Barangay	Proportion	All sample households	4
4Ps	Proportion	All sample households	4
Sustainable Livelihood Program	Proportion	All sample households	4
Individuals			
Newborn Screening	Proportion	All 0-71 months old children	4
BCG	Proportion	All 0-71 months old children	4
Vitamin A Supplementation	Proportion	All 0-71 months old children	4
Deworming	Proportion	All 0-71 months old children	4
OPT Plus	Proportion	All 0-71 months old children	4

Component/Variable	Estimate	Population	No. of Replicate Covered
Supplementary Feeding	Proportion	All 0-71 months old children	4
Orally Fit	Proportion	All 0-71 months old children	4
Iron Supplements	Proportion	All 0-71 months old children	4
Given MNP	Proportion	All 0-71 months old children	4
Deworming Participation	Proportion	All 6-12 years old children	4
Always Washing Hands Before Meal	Proportion	All 6-12 years old children	4
Always Washing Hands After Meal	Proportion	All 6-12 years old children	4
Always Washing Hands After Toilet	Proportion	All 6-12 years old children	4
Always Brushing Teeth with Toothpaste	Proportion	All 6-12 years old children	4
Public School Gardening	Proportion	All 6-12 years old children	4
Private School Gardening	Proportion	All 6-12 years old children	4
Knows Iodized Salt	Proportion	All 6-12 years old children	4
MATERNAL HEALTH AND NUTRITION			
Antenatal care	Proportion	All mothers with 0-36 months old children and currently pregnant women	4
Postnatal care within 2 days of delivery	Proportion	All mothers with 0-36 months old children and currently pregnant women	4
Tetanus toxoid	Proportion	All mothers with 0-36 months old children and currently pregnant women	4
Postnatal care	Proportion	All mothers with 0-36 months old children and currently pregnant women	4
On-time Antenatal care	Proportion	All mothers with 0-36 months old children and currently pregnant women	4
INFANT AND YOUNG CHILD FEEDING			
Exclusive Breastfeeding, 0-5 months old	Proportion	All 0 to 5 months old infants	4
Breastfeeding Initiation within 1 hour, 0-23 months old	Proportion	All 0 to 23 months old infants	4
Ever-Breastfeeding, 0-23 months old	Proportion	All 0 to 23 months old infants	4
Minimum Dietary Diversity, 6-23 months old	Proportion	All 6 to 23 months old infants	4
Minimum Meal Frequency, 6-23 months old	Proportion	All 6 to 23 months old infants	4
Minimum Acceptable Diet, 6-23 months old	Proportion	All 6 to 23 months old infants	4
SALT SURVEY			
Awareness on Iodized Salt	Proportion	All sample households	4
Perceived usage of iodized salt, presently using	Proportion	All sample households	4
NUTRITION LABELLING			
Read Product Label	Proportion	All sample households	4
Nutrition facts influence in buying the products	Proportion	All sample households	4
DISABILITY STATISTICS			
Vision Disability	Proportion	All 20 years old and above adults	1
Hearing Disability	Proportion	All 20 years old and above adults	1
Walking Disability	Proportion	All 20 years old and above adults	1
Memory Disability	Proportion	All 20 years old and above adults	1
Self-care Disability	Proportion	All 20 years old and above adults	1
Communication Disability	Proportion	All 20 years old and above adults	1
HISTORY, SIGNS AND SYMPTOMS OF VARIOUS DISEASES			
Angina	Proportion	All 20 years old and above adults	1
Stroke	Proportion	All 20 years old and above adults	1
Hypertension	Proportion	All 20 years old and above adults	1
Diabetes	Proportion	All 20 years old and above adults	1

Table B.2 Sampling errors: All Samples, Philippines 2013

Component/Variable	Value (R)	Standard Error (SE)	Number of Cases (n)	Design Effect (DEFT)	Relative Error (SE/R)	Confidence Limits	
						R-2SE	R+2SE
ANTHROPOMETRY							
0-60 months							
underweight	0.199	0.004	13,406	1.147	0.020	0.191	0.207
stunting	0.303	0.005	13,291	1.164	0.015	0.294	0.313
wasting	0.079	0.003	13,285	1.089	0.032	0.074	0.084
overweight-for-height	0.050	0.002	13,285	1.141	0.043	0.046	0.055
61-120 months							
underweight	0.291	0.005	16,387	1.269	0.015	0.282	0.300
stunting	0.299	0.005	16,354	1.273	0.015	0.289	0.308
wasting	0.086	0.003	16,352	1.154	0.029	0.081	0.091
overweight/obese	0.091	0.003	16,352	1.216	0.030	0.086	0.096
121-228 months							
stunting	0.316	0.004	9,400	1.711	0.011	0.309	0.323
wasting	0.124	0.003	3,389	3.008	0.027	0.118	0.131
overweight/obese	0.083	0.002	2,177	1.409	0.023	0.079	0.087
20 years old & up							
CED	0.100	0.001	7,308	1.252	0.014	0.097	0.103
overweight/obese	0.312	0.003	21,208	1.432	0.008	0.307	0.317
Pregnant							
Nutritionally at-risk	0.248	0.013	1,184	1.059	0.054	0.221	0.274
Lactating							
CED	0.125	0.007	2,605	1.075	0.056	0.111	0.139
overweight/obese	0.217	0.009	2,605	1.088	0.040	0.200	0.235
Birthweight							
Low birth weight (<2500 g)	0.115	0.004	822	1.095	0.036	0.107	0.123
BIOCHEMICAL							
Anemia							
ALL	0.112	0.003	33,852	1.712	0.026	0.106	0.118
6 mo – 5 y, All	0.138	0.008	3,190	1.538	0.061	0.123	0.156
6 mo – 1 y	0.405	0.042	262	1.605	0.103	0.326	0.489
1 - 5 y	0.112	0.008	2,928	1.497	0.070	0.098	0.129
6 – 12 y, All	0.111	0.005	5,794	1.316	0.049	0.101	0.122
Male	0.111	0.007	2,993	1.188	0.062	0.099	0.126
Female	0.110	0.007	2,801	1.241	0.067	0.097	0.126
13 – 19 y, All	0.077	0.004	5,500	1.083	0.053	0.070	0.086
Male	0.053	0.004	2,898	0.973	0.081	0.045	0.062
Female	0.104	0.007	7,452	1.075	0.064	0.091	0.118
20 – 59 y, All	0.093	0.003	14,665	1.378	0.035	0.087	0.100
Male	0.060	0.003	7,452	1.228	0.056	0.054	0.067
Female	0.127	0.005	7,213	1.337	0.040	0.117	0.137
20 -39 y, All	0.080	0.004	6,984	1.321	0.049	0.072	0.088
Male	0.041	0.004	3,746	1.303	0.096	0.034	0.049
Female	0.121	0.006	3,238	1.255	0.053	0.109	0.134
40 - 59 y, All	0.110	0.004	7,681	1.183	0.041	0.102	0.119
Male	0.085	0.005	3,706	0.971	0.055	0.077	0.095
Female	0.133	0.007	3,975	1.201	0.051	0.120	0.147
≥ 60 y, All	0.208	0.008	3,644	0.991	0.037	0.193	0.224
Male	0.230	0.012	1,588	0.950	0.050	0.208	0.253
Female	0.191	0.009	2,056	0.925	0.049	0.173	0.210
Pregnant	0.246	0.027	310	1.197	0.110	0.197	0.303
Lactating	0.167	0.014	749	1.118	0.086	0.141	0.197
UIE							
6-12y	0.164	0.003	22,588	1.407	0.021	0.157	0.171
13-19y	0.198	0.007	5,514	1.231	0.034	0.185	0.212
20-59y	0.224	0.006	14,820	1.784	0.026	0.213	0.236
60&above	0.337	0.010	3,676	1.163	0.031	0.317	0.358
Pregnant	0.270	0.014	1,095	1.158	0.053	0.243	0.299
Lactating	0.343	0.013	1,460	1.139	0.039	0.317	0.369

Component/Variable	Value (R)	Standard Error (SE)	Number of Cases (n)	Design Effect (DEFT)	Relative Error (SE/R)	Confidence Limits	
						R-2SE	R+2SE
CLINICAL AND HEALTH							
Current Alcohol Drinkers							
10 - 19 y	0.186	0.007	1,506	1.592	0.036	0.173	0.199
20 y & above	0.482	0.006	9,389	1.787	0.013	0.470	0.494
Low Physical Activities	0.455	0.008	8,661	2.358	0.018	0.438	0.471
Current Smokers							
10 - 19 y	0.069	0.003	8,678	1.279	0.051	0.062	0.075
20 y & above	0.254	0.004	20,163	1.413	0.017	0.245	0.262
Hypertension	0.223	0.002	18,408	1.458	0.010	0.218	0.227
DIETARY (per capita intake)							
Total Food	854.456	5.246	8,592	1.267	0.006	843.965	864.948
Energy	1810.280	9.367	8,592	1.318	0.005	1791.546	1829.014
Protien	56.453	0.332	8,592	1.219	0.006	55.790	57.117
Iron	9.373	0.066	8,592	1.335	0.007	9.240	9.506
Calcium	0.395	0.005	8,592	1.370	0.012	0.385	0.405
Vitamin A	519.526	21.433	8,592	1.311	0.041	476.660	562.393
Vitamin C	43.880	0.694	8,592	1.273	0.016	42.492	45.267
Thiamin	0.825	0.006	8,592	1.163	0.007	0.813	0.836
Niacin	18.251	0.121	8,592	1.263	0.007	18.009	18.494
Riboflavin	0.752	0.010	8,592	1.330	0.013	0.731	0.772
Fat	37.523	0.430	8,592	1.347	0.011	36.664	38.383
Carbohydrates	310.800	1.847	8,592	1.470	0.006	307.105	314.494
FOOD SECURITY							
DDS Score	9.471	0.018	35,573	3.580	0.002	9.435	9.507
Food Consumption Score - Poor	0.017	0.001	35,573	1.597	0.051	0.015	0.019
Food Consumption Score - Borderline	0.080	0.002	35,573	1.727	0.024	0.076	0.084
Food Consumption Score - Acceptable	0.903	0.002	35,573	2.053	0.002	0.899	0.908
GOVERNMENT PROGRAM PARTICIPATION							
Household							
Food Production	0.119	0.004	11,632	1.664	0.035	0.111	0.128
Loans, Livelihood and Employment	0.020	0.001	15,889	1.422	0.071	0.017	0.023
CSAP	0.095	0.009	4,216	3.793	0.097	0.077	0.114
Botika ng Barangay	0.222	0.006	35,640	6.594	0.025	0.210	0.233
4Ps	0.410	0.006	11,950	1.365	0.014	0.398	0.421
Sustainable Livelihood Program	0.022	0.002	15,889	2.260	0.083	0.019	0.026
Individuals							
Newborn Screening	0.394	0.006	16,025	2.071	0.014	0.383	0.405
BCG	0.910	0.003	16,612	1.981	0.003	0.903	0.916
Vitamin A Supplementation	0.817	0.005	14,148	2.263	0.006	0.807	0.827
Deworming	0.513	0.006	14,149	1.880	0.011	0.501	0.525
OPT Plus	0.692	0.006	16,617	2.465	0.008	0.681	0.704
Supplementary Feeding	0.529	0.009	4,353	1.538	0.018	0.510	0.548
Orally Fit	0.350	0.010	4,353	1.956	0.029	0.329	0.370
Iron Supplements	0.172	0.021	395	1.268	0.124	0.129	0.215
Fully Immunized Child	0.684	0.010	2,480	1.194	0.015	0.664	0.705
Deworming Participation	0.634	0.005	23,996	2.826	0.008	0.623	0.644
Always Washing Hands Before Meal	0.565	0.005	23,996	2.923	0.010	0.554	0.576
Always Washing Hands After Meal	0.583	0.005	23,996	2.316	0.009	0.572	0.593
Always Washing Hands After Toilet	0.652	0.005	23,996	2.920	0.008	0.641	0.662
Always Brushing Teeth with Toothpaste	0.560	0.006	23,996	2.974	0.010	0.549	0.571
Public School Gardening	0.492	0.005	23,996	2.599	0.011	0.481	0.502
Private School Gardening	0.013	0.001	23,996	1.882	0.076	0.011	0.015
Knows Iodized Salt	0.070	0.002	23,996	1.805	0.032	0.065	0.074
MATERNAL HEALTH AND NUTRITION							
Antenatal care	0.937	0.003	6,653	1.142	0.004	0.930	0.944
Postnatal care within 2 days of delivery	0.839	0.006	4,858	1.151	0.007	0.827	0.851
Tetanus toxoid	0.788	0.006	6,187	1.176	0.008	0.776	0.801
Postnatal care	0.904	0.005	6,293	1.214	0.005	0.895	0.913
Ontime Antenatal care	0.745	0.006	6,187	1.070	0.008	0.733	0.757

Component/Variable	Value (R)	Standard Error (SE)	Number of Cases (n)	Design Effect (DEFT)	Relative Error (SE/R)	Confidence Limits	
						R-2SE	R+2SE
INFANT AND YOUNG CHILD FEEDING							
Exclusive Breastfeeding, 0-5 months old	0.523	0.016	1,139	1.076	0.030	0.491	0.555
Breastfeeding Initiation within 1 hour, 0-23 months old	0.771	0.007	4,292	1.147	0.010	0.757	0.786
Ever-Breastfeeding, 0-23 months old	0.888	0.005	4,847	1.157	0.006	0.878	0.899
Minimum Dietary Diversity, 6-23 months old	0.155	0.006	3,588	1.067	0.042	0.142	0.168
Minimum Meal Frequency, 6-23 months old	0.941	0.004	3,588	1.065	0.004	0.932	0.949
Minimum Acceptable Diet, 6-23 months old	0.064	0.004	3,588	1.064	0.068	0.056	0.073
SALT SURVEY							
Awareness on Iodized Salt	0.715	0.004	24,635	3.039	0.006	0.707	0.724
Perceived usage of iodized salt, presently using	0.475	0.005	11,686	2.478	0.011	0.465	0.485
NUTRITION LABELLING							
Read Product Label	0.410	0.009	3,274	2.860	0.022	0.392	0.428
Nutrition facts influence in buying the products	0.822	0.020	414	1.154	0.025	0.781	0.863
DISABILITY STATISTICS							
Vision Disability	0.161	0.006	3,608	2.398	0.039	0.148	0.174
Hearing Disability	0.048	0.003	1,167	1.672	0.053	0.043	0.053
Walking Disability	0.122	0.004	2,876	1.765	0.034	0.114	0.130
Memory Disability	0.178	0.006	3,940	2.371	0.036	0.165	0.191
Self-care Disability	0.015	0.001	398	1.024	0.058	0.014	0.017
Communication Disability	0.011	0.001	267	1.357	0.091	0.009	0.013
HISTORY, SIGNS AND SYMPTOMS OF VARIOUS DISEASES							
Angina	0.254	0.006	5,225	2.049	0.025	0.241	0.266
Stroke	0.044	0.002	993	1.547	0.051	0.039	0.049
Hypertension	0.130	0.003	2,885	1.222	0.023	0.124	0.136
Diabetes	0.033	0.002	687	1.294	0.039	0.148	0.174

C. Ethical Clearance



Food and Nutrition Research Institute-Institutional Ethics Review Committee
FIERC Form 2.8 Approval Letter

**Food and Nutrition Research Institute
Institutional Ethics Review Committee (FIERC)**

Date : 19 February 2013
FOR : DR. IMELDA ANGELES - AGDEPPA
SUBJECT : Final Action on Research Protocol

Please be informed that the following protocol and related documents have been granted approval by the FNRI Institutional Ethics Review Committee for implementation

Protocol Code	FIERC-2012-001	Date Submitted	23 January 2013
Protocol Title	8 th National Nutrition Survey, Philippines 2013		
Principal Investigator/s	Dr. Imelda Angeles-Agdeppa	Sponsor	
Protocol Version Number	1	Protocol Version Date	23 January 2013
ICF Version Number	1	ICF Version Date	23 January 2013
Other Documents			
Type of Review	<input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Full Board Meeting Date: 19 February 2013	Duration of Approval: From 22 January 2013 19 February 2013	Frequency of Continuing Review: Annual

Approved by:

Noted:


GEMILIANO D.L. ALIGUI, MD, MPH, PhD.
FIERC Chair


MARIO V. CAPANZANA, Ph.D.
Director

Food and Nutrition Research Institute – Department of Science and Technology
General Santos Avenue, Bicutan, Taguig City, Philippines 1631
Tel no. +632 51-333-85 Fax no. 837-3164/837-2934
• fierc.fnri@gmail.com • FNRI_FIERC@yahoo.com



Food and Nutrition Research Institute-Institutional Ethics Review Committee
FIERC Form 2.8 Approval Letter

Principal Investigator Responsibilities after Approval:

- Submit document amendments for FIERC approval before implementing them
- Submit Serious Adverse Event (SAE) and Suspected Unexpected Serious Adverse Reaction (SUSAR) reports to the FIERC within seven (7) days
- Submit progress report every quarter
- Report protocol deviation/violation
- Comply with all relevant international and national guidelines and regulations
- Abide by the principles of good clinical practice and ethical research
- Submit final report/summarized terminal report after completion of research

CONFORME

DR. IMELDA ANGELES-AGDEPPA
Principal Investigator

Received by:

CHARMAINE A. DUANTE

SUPVG, Science Research Specialist

Signature over Printed Name

Date: Feb. 22, 2013

Food and Nutrition Research Institute – Department of Science and Technology
General Santos Avenue, Bicutan, Taguig City, Philippines 1631
Tel no. +632 51-333-85 Fax no. 837-3164/837-2934
• fierc.fnri@gmail.com • FNRI_FIERC@yahoo.com

D. NSCB/PSA Approval

SSRCS Form 3
Revised 1997

Republic of the Philippines
NATIONAL STATISTICAL COORDINATION BOARD
2nd Flr., Midland Buendia Bldg.
403 Sen. Gil J. Puyat Avenue, Makati City

NSCB ACTION NOTIFICATION FORM

Reference No. PP1-06172013-07

19 June 2013

Dr. MARIO V. CAPANZANA

Director
Food and Nutrition Research Institute
Gen. Santos Ave., Bicutan
Taguig City

Dear **Director Capanzana**:

This refers to your request for the clearance of the 2012 National Nutrition Survey. We acknowledge with thanks the following documents received from your office and which were used as basis for our evaluation:

NSCB Ref. No	Title of Document	Format Received	Date Received
SSRCS-2013-05-101	Agency transmittal letter dated 02 May 2013	Hard copy	14 May 2013
SSRCS-2013-05-102	SSRCS Form 1. Statistical Survey Notification Form	Hard copy	14 May 2013
SSRCS-2013-05-103	2013 NNS Sample Questionnaire	Hard copy	14 May 2013
SSRCS-2013-05-104	2013 NNS Manual of Instructions	Hard copy	14 May 2013
SSRCS-2013-05-105	Accomplished SSRCS Form 4 for the 2013 NNS	Hard copy	06 June 2013

Please find below the clearance number and expiration date which should be printed or stamped on the upper right corner of the first page of the final questionnaire.

Please consider our comments and recommendations pertaining to the sample size, consistency of codes and categories used, adoption of standard classification systems, and revisions on some of the questionnaire columns and structure.

Thank you for your cooperation and support in our endeavour to improve the quality of surveys conducted by government agencies.

Very truly yours,

LINA V. CASTRO

Officer-in-Charge
Office of the Secretary General

Title of statistical survey

2013 National Nutrition Survey

Proponent agency

Food and Nutrition Research Institute

Conducting agency

Food and Nutrition Research Institute1 ☒ **CLEARANCE GRANTED**, subject to the following final action:

- i) ☒ All information enclosed in the box/es below must be printed or stamped on the upper right corner of the first page of the statistical survey form.

Page 1 of 5

- (a) Questionnaire Title: Booklet 1 – Household

NSCB Approval No. FNRI-1227-01 Expires on 30 June 2014

- (b) Questionnaire Title: Booklet 2 – Anthropometry and Other Information of All Household Members

NSCB Approval No. FNRI-1227-02 Expires on 30 June 2014

- (c) Questionnaire Title: Booklet 3 – Mothers with Youngest Child, 0-36 Months and Pregnant Women

NSCB Approval No. FNRI-1227-03 Expires on 30 June 2014

- (d) Questionnaire Title: Booklet 4A – Children, 0-23 Months

NSCB Approval No. FNRI-1227-04 Expires on 30 June 2014

- (e) Questionnaire Title: Booklet 4B – Children, 24-71 Months

NSCB Approval No. FNRI-1227-05 Expires on 30 June 2014

- (f) Questionnaire Title: Booklet 5 – Household Food Consumption

NSCB Approval No. FNRI-1227-06 Expires on 30 June 2014

- (g) Questionnaire Title: Booklet 6A – Individual Food Consumption, Household Meal Planners

NSCB Approval No. FNRI-1227-07 Expires on 30 June 2014

- (h) Questionnaire Title: Booklet 7A – Clinical and Health Questionnaire for Members, 10 Years Old and Over

NSCB Approval No. FNRI-1227-08 Expires on 30 June 2014

- (i) Questionnaire Title: Booklet 7B – Clinical and Health Questionnaires – Children, 10-19.99 Years Old

NSCB Approval No. FNRI-1227-09 Expires on 30 June 2014

- (j) Questionnaire Title: Booklet 7C – Clinical and Health Questionnaire – Adults, 20 Years Old and Over

NSCB Approval No. FNRI-1227-10 Expires on 30 June 2014

- (k) Questionnaire Title: Booklet 8 – Biochemical Information, All Members

NSCB Approval No. FNRI-1227-11 Expires on 30 June 2014

- (l) Questionnaire Title: Booklet 7A – Clinical and Health Questionnaire for Members, 10 Years Old and Over (For Mobile Team)

NSCB Approval No. FNRI-1227-12 Expires on 30 June 2014

- ii) ☒ Submit a copy of the printed forms/questionnaires with the clearance number to the Statistical Programs, Policies and Standards Office, NSCB.

- iii) ☒ Others. (Specify)

- Please furnish the NSCB copies of the Manual of Operations and survey results.

abc *na*
pb

3 ☒ **REMARKS**

A. On the SSRCS Form 1 and the Survey Design:

1. The survey design and instrument shall still be subject for review by the Technical Committee on Survey Design (TCSD) particularly Booklet 5 (Household Food Consumption) and Booklet 6A (Individual Food Consumption, Household Meal Planners) on the indicators that can be derived, as well as the generation of provincial level data. Further, Form 1.3 (Government Program Participation of Households) and Form 1.5 (Household Food Security) will have to be referred to the Technical Committee on Poverty Statistics (TC PovStat) for its review and discussion. In view of this, there may be recommended revisions even before the clearance has expired.
2. On Part II (Technical Description), Item 1, page 3, it is noted that the size of the sample for households is 46,000. May we be provided with a brief explanation how this value was derived since if the 2003 Master Sample was used with four replicates, the sample size should be around 51,000 households?
3. On Part IV (Timetable of Activities), per NSCB Resolution No. 5 (series of 2011), "Approving and Adopting the General Policy on the Production, Release and Dissemination of Microdata in the Philippine Statistical System", a schedule on the release of the NNS microdata/public use file (PUF) should be included.

B. On Booklet 1 – Household:

1. For consistency with the codes used in other censuses/surveys (i.e. Census of Population and Housing (CPH), Family Income and Expenditures Survey (FIES), ARTA RCS (Anti-Red Tape Act Report Card Survey (ARTA RCS))), it is suggested that the following codes be adopted for each of the items indicated below and be further implemented in the other booklets:

a. Codes for # 10 (Civil Status), page 2:

- 1 – Single
- 2 – Married
- 3 – Widowed
- 4 – Separated
- 5 – Common-law/Live-in
- 6 – Unknown

b. Codes for # 14 (Relationship to Household Head), page 2:

- 1 – Household head
- 2 – Husband/Wife
- 3 – Son
- 4 – Daughter
- 5 – Stepson
- 6 – Stepdaughter
- 7 – Son-in-law
- 8 – Daughter-in-law
- 9 – Grandson
- 10 – Granddaughter
- 11 – Father
- 12 – Mother
- 13 – Brother
- 14 – Sister

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- 15 – Uncle
 - 16 – Aunt
 - 17 – Nephew
 - 18 – Niece
 - 19 – Other relative
 - 20 – Nonrelative
 - 21 – Boarder
 - 22 – Domestic Helper
2. On the Codes for # 15 (Highest Educational Attainment), page 3, “*Post Secondary (voc/tech)*” should be labelled as “*Post-Secondary Non-Tertiary/Technical Vocational*” per NSCB Resolution No. 8 (series of 2008), “Approving and Adopting the 2008 Philippine Standard Classification of Education”.
3. For the same reason stated in comment B.1, the adoption of the following categories for the items below is recommended:
- a. Item I.2, type of dwelling unit, page 4:
- 1 – Single house
 - 2 – Duplex
 - 3 – Multi-unit residential (three units or more)
 - 4 – Commercial/industrial/agricultural (office, factory, and others)
 - 5 – Institutional living quarter (hotel, hospital, and others)
 - 6 – Other housing unit (boat, cave, and others)
- b. Item I.5, main roofing material, page 4:
- 1 – Galvanized iron/aluminium
 - 2 – Tile concrete/clay tile
 - 3 – Half galvanized iron and half concrete
 - 4 – Wood
 - 5 – Cogon/nipa/anahaw
 - 6 – Asbestos
 - 7 – Makeshift/salvaged/improvised materials
 - 8 – Others
- c. Item I.6, main flooring material, page 4:
- 1 – Concrete/brick/stone
 - 2 – Wood
 - 3 – Half concrete/brick/stone/and half wood
 - 4 – Galvanized iron/aluminium
 - 5 – Bamboo/sawali/cogon/nipa
 - 6 – Asbestos
 - 7 – Glass
 - 8 – Makeshift/salvaged/improvised materials
 - 9 – Others
 - 10 – No walls
4. On Form I.3 (Government Program Participation of Households), Pantawid Pamilyang Pilipino Program (4P's), page 8, we recommend adding “*Conditional Cash Transfer (CCT)*” in the label to update the title of the program. Thus, the sub-section title will be, “*Pantawid Pamilyang Pilipino Program (4P's)/Conditional Cash Transfer (CCT)*”.
- C. On Booklet 2 – Anthropometry and Other Information of All Household Members

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for

1. On Form 2.2 (Other Information of All Household Members), page 4, it is recommended that Columns on Age, Sex and Physiological Characteristics no longer be indicated since it is already included in Form 2.1 (Measurements of All Household Members).
 2. On Form 2.3 (Other Information of Women 15-45 Years Old), Column 22, page 10, for proper question structure, kindly note minor correction on, "*I – Yes Currently (proceed to column 24)*".
- D. On Booklet 3 – Mothers with Youngest Child, 0-36 Months and Pregnant Women
1. On the code for Frequency, page 10, for consistency with the booklet title, it is suggested that *Code 9* be revised as "*NA (first time pregnant or pregnant with children **beyond 36 months**)*".
- E. On Booklet 6A – Individual Food Consumption, Household Meal Planners
1. On Item 8b, to better guide the respondents and the interviewer, it should be indicated that multiple responses are allowed.
 2. On Usage of Brown Rice, page 9, *Code 9- NA (Not aware of Brown Rice)* under Items 12, 13, 15, and 16 may no longer be necessary since in Item 11, it is indicated that the interview ends if the respondent is not aware of Brown Rice.
- F. We would also like to reiterate our previous recommendations mentioned in the 2008 NNS as follows:
1. Form 2.2 is for household members 10 years old and above. Columns 1 and 2 should include only names of household members 10 years old and above and not all members as indicated in column 2.
 2. On Booklet 1 (Household information), relationship of household member to the household head is usually put next to the name of household members for immediate identification of the household head and determination of the relationship of the members to the head. It is therefore suggested that Column 14(RHC) be made as Column 3 which is next to the column *Name*.

REVIEWING OFFICIAL

RECOMMENDING OFFICIAL


ALMA S. BELLO
 Officer-in-Charge

Statistical Programs, Policies and Advocacy Division
 19 June 2013


REGINA S. REYES
 Director

Statistical Programs, Policies and Standards Office
 19 June 2013

ABC

E. Informed Consent Forms



FOOD AND NUTRITION RESEARCH INSTITUTE

Department of Science and Technology
Gen. Santos Ave., Bicutan, Taguig, Metro Manila, Philippines
Tel. Nos. 837-2934; 837-2071 to 82; Fax No. (632) 837-3164

NAMD-T-002
Revision 0
05 Dec 2012

INFORMED CONSENT FORM 8th NATIONAL NUTRITION SURVEY

Name of Household Head/Respondent: _____
Address: _____
Household No.: _____

INFORMATION FOR RESPONDENT(S)

The Food and Nutrition Research Institute of the Department of Science and Technology is the premier government research and development institution on food, nutrition and health researches in the country. The Institute is mandated to assess the Philippine food situation and nutritional status of the population, for the appropriate formulation and modification of food and nutrition policies, nutrition intervention programs as well as related health and development programs.

(Ang Food and Nutrition Research Institute ng Department of Science and Technology ay ang pangunahing institusyon sa pagsusuri ng nutrisyon at kalusugan sa bansa upang mailahad ang kalagayang pangnutrisyon ng mga Pilipino na magiging batayan sa pagsasagawa ng mga programang angkop sa problemang pang-nutrisyon.)

Components and Method of the Survey: (Bahagi at Paraan ng Pagsusuri/Survey)

The 8th NNS has the following components and data collection procedures to be carried out among the respondents.

(Ang 8th NNS ay may sumusunod na bahagi at mga pamamaraan sa pagkalap ng mga impormasyong kailangan sa mga kasali sa proyektong ito.)

A. Anthropometric Survey

- Measurements of weight and height/ recumbent length for all members of the household using standard instruments (i.e., Detecto weighing scale, and Microtoise or infantometer) to define their nutritional status. Children who are unable to stand by themselves on the platform of the weighing scale will be carried by and weighed together with the mother/ caregiver.

(Pagkuha ng timbang at taas o haba sa lahat ng kasapi sa bahay (mula bata hanggang matanda) gamit ang "detecto weighing scale", "microtoise" o "infantometer" upang malaman ang kanilang kalagayang pang nutrisyon. Ang mga batang hindi makatayo sa timbangan ay kakargahin ng ina o tagapag-alaga at sabay titimbangin.)

- Measurements of waist and hip circumferences for all household members, 10 years old and over, using a standard fiberglass tape measure to determine central obesity.

(Pagkuha ng sukat ng baywang at balakang sa mga kasapi sa bahay na may edad 10 taon pataas gamit ang medida upang malaman ang taba sa may tiyan.)

- Examination of the neck circumference for all 6 – 18 years old household members to determine the early onset of obesity

(Pagkuha ng sukat ng leeg sa mga batang kasapi sa bahay na may edad 6-18 taong gulang upang malaman ang maagang panganib ng katabaan.)

B. Biochemical Nutrition Survey

- Collection of 0.5 mL blood through finger prick from household members 6 months – 5 years old to determine hemoglobin level.

(Pagkuha ng 0.5 mL na dugo sa daliri ng mga bata na may edad 6 na buwan hanggang 5 taon upang masuri ang dami ng pulang dugo.)



- Collection of 5 mL blood through venipuncture from household members, 6 years old and over, as well as pregnant women and lactating mothers less than 18 years old using sterile, and disposable needles and syringes to determine hemoglobin level.

(Pagkuha ng 5 mL na dugo sa ugat ng braso gamit ang "sterile disposable needle" at "syringe" sa mga kasapi sa bahay na may edad 6 na taon pataas pati mga buntis at nagpapapusong inang may edad 18 taong gulang pababa upang masuri ang dami ng pulang dugo.)

- Collection of 15 mL urine among children 6 years old and over, pregnant women and lactating mothers to determine urinary iodine excretion.

(Pagkuha ng 15 mL na ihi sa mga batang kasapi sa bahay may edad 6 taon pataas pati na ang mga buntis at nagpapapusong ina upang masuri ang "iodine".)

- Collection of 15 mL breastmilk from lactating mothers to determine zinc and iron levels.

(Pagkuha ng 15 mL na gatas sa mga nagpapapusong ina upang masuri ang "zinc at iron".)

The blood collection procedure may cause slight discomfort or distress to the subject that may last only for a couple of hours. In case of fainting or other untoward incident related to the study, appropriate first aid will be provided by the Research Team from FNRI or you may notify the Project Leader at (02) 839-1843.

(Ang pamamaraan ng pagkuha ng dugo ay maaaring magdulot ng kaunting sakit sa loob lamang ng hindi tatagal ng isa o dalawang oras. Kung makakaranas ng pagkahilo o kung ano mang masamang pakiramdam na may kinalaman sa pagsusuri, ang karampatang lunas ay ipagkakaloob ng grupo mula sa FNRI o maaaring ipaalam ito sa "Project Leader" sa (02) 839-1843.)

C. Clinical and Health Survey

- The following will be conducted for selected members of the household:

- Measurement of blood pressure using non mercurial sphygmomanometer among household members 10 years and over to determine hypertension.

(Pagkuha ng presyon ng dugo gamit ang sphygmomanometer na walang mercury sa mga kasapi sa bahay na may edad 10 taon pataas upang malaman kung mataas ang presyon.)

- Collection of 12 to 15 mL blood through venipuncture using vacutainer or sterile disposable syringes (including the blood requirement of Biochemical component) to determine Fasting Blood Sugar (FBS) among household members 18 years old and over and Lipid Profile among adults 20 years old and over after a 10 to 12 hours fasting.

(Pagkuha ng 12 hanggang 15 mL na dugo sa ugat ng braso gamit ang "disposable needle" at "syringe" (kasama na ang para sa Biochemical na grupo) upang masuri ang dami ng asukal sa dugo sa mga kasapi na may edad 18 pataas at kolesterol at iba pang uri ng taba sa dugo sa mga kasapi na may edad 20 taong gulang pataas pagkatapos ng di pagkain o pag-inom ng tubig sa loob ng 10 hanggang 12 oras.)

- Collection of stool samples among children 1 to 12 years old for parasitic examination

(Pagkuha ng kaunting dumi o tae mula sa mga batang edad isa hanggang 12 na taong gulang upang masuri kung may bulate o wala.)

- Collection of urine for adults, 20 years old and over to determine Chronic Kidney Disease through microalbuminuria and proteinuria tests using micral test strips and dipstick, respectively.

(Pagkuha ng kaunting ihi sa mga kasapi na may edad 20 pataas upang masuri kung may sakit sa bato sa pamamagitan ng "micral test strips" at "dipstick".)

- Interview on lifestyle-related risk factors and other diseases such as smoking, alcohol consumption, physical activity, diet, hypertension, diabetes mellitus and among others.

(Interbyu tungkol sa iba't ibang "risk factors" at sakit, na may kaugnayan sa "lifestyle" tulad ng paninigarilyo, pag-inom ng alkohol na inumin, pang araw araw na gawain, diyeta, altapresyon, diyabetes at iba pa.)

The blood collection procedure may cause slight discomfort or distress to the subject that may last only for a couple of hours. In case of fainting or other untoward incident related to the study, appropriate first aid will be provided by the Research Team from FNRI or you may notify the Project Leader at (02) 839-1843..

(Ang pamamaraan ng pagkuha ng dugo ay maaaring magdulot ng kaunting sakit sa loob lamang ng hindi tatagal ng isa o dalawang oras. Kung makakaranas ng pagkahilo o kung ano mang masamang pakiramdam na may kinalaman sa pagsusuri, ang karampatang lunas ay ipagkakaloob ng grupo mula sa FNRI o maaaring ipaalam ito sa "Project Leader" sa (02) 839-1843.)

D. Food Consumption Survey

- One-day food weighing of all food items to be consumed by the household that includes the three major meals and snacks, using the calibrated digital dietetic scale. Edible plate wastes will also be weighed after every meal. Foods eaten outside the household by the member (s) will be recalled.

(Isang araw na pagtitimbang ng lahat ng pagkaing kakainin ng buong pamilya mula umaga hanggang gabi gamit ang "dietetic scales". Ang mga natirang pagkain ay titimbangin din pagkatapos makakain. Ang mga pagkaing kinain sa labas ng mga kasapi sa bahay ay kasama sa pagtatala gamit ang "24 hour food recall".)

- Face to face interview on the one day intake of all food items eaten by household members, 0 month and above using 24 hour food recall and the frequency of consuming sodium rich foods, beverages, coconut oil and other caloric rich fatty foods using a food frequency questionnaire (FFQ).

(Pagtatanong ng mga kinain sa nakaraang buong araw sa lahat ng kasapi sa bahay na may edad 0 na buwan pataas gamit ang "24 hour food recall" at pagkuha ng impormasyon sa dalas ng pagkain ng mga pagkaing maaalat, mga inumin, mantika ng niyog at iba pang matatabang pagkain gamit ang "food frequency questionnaire".)

E. Economic Survey

- Interview (and/or observation) on the socio-economic characteristics of the households.

(Pagkuha ng impormasyon tungkol sa kalagayan ng pangkabuhayan ng sambayanan.)

F. Food Security Survey

- Interview among mothers or meal planners on the food security status of the households and the corresponding coping strategies when food insecurity occurs.

(Pagkuha ng impormasyon sa mga ina o taga paghanda ng pagkain tungkol sa karanasan sa seguridad pang-pagkain at ang mga paraan kung paano makasalba.)

G. Nutrition and Health Participation in Government Programs

- Interview with the mothers/ caregivers, and pregnant women and lactating mothers on the government-intervention programs participated in by the households/ members.

(Pagtatanong sa mga ina ng tahanan o tagapag-alaga, buntis at nagpapasusong ina tungkol sa partisipasyon ng mga miyembro nito sa iba't-ibang programa ng gobyerno tungkol sa kalusugan at nutrisyon.)

H. Genomics

- Few drops of blood from the blood sample will be placed immediately on each of the four circumscribed circles on a filter card to identify genes to be associated with cancer, cardiovascular disease, diabetes, osteoporosis and obesity among 6 years old and over.

(Kukuha ng kaunting patak sa nakolektang dugo at agad itong ilalagay sa apat na bilog ng "filter card" upang masuri ang "genes" na may kinalaman sa kanser, iba't ibang uri ng sakit sa puso, diabetes, malutong na buto at labis na katabaan sa mga miyembrong may edad anim pataas.)

I. Infant and Young Child Feeding Practices

- Face-to-face Interview among respondents (mother or caregiver) to collect information on Infant and Young Child Feeding Practices among children 0-23 months.

(Interbyu sa mga kasapi sa bahay (ina o tagapag-alaga) na may kinalaman sa pamamaraan ng pagpapakain sa mga bata edad 0-23 na buwan.)

J. Maternal Health and Nutrition

- Interview among mothers with children 0-36 months old, pregnant women and lactating mothers to collect information on maternal and child health care, knowledge, attitude and practices on nutrition, health and hygiene.

(Interbyu sa mga ina na may anak edad 0-36 na buwan, mga buntis at nagpapasusong ina upang makakalap ng mga impormasyon tungkol sa "healthcare", kasama ang kaalaman at kaugalian nila sa nutrisyon, kalusugan, at kalinisan.)

Non-disclosure of Information: (Mga impormasyong hindi ibubunyag)

Information obtained from the respondent(s) with their corresponding identity will not be divulged to any person or agency. However, the list of names of the respondent (s) may, and will only be provided to the Municipal or City Health Officer.

(Ang mga impormasyong makakalap sa mga kasali sa pagsusuri na ito, gayundin ang anumang mapagkakakilanlan sa kanila ay hindi ibubunyag kanino man o saan mang ahensiya. Subalit ang listahan ng mga pangalan ng mga kasali ay maaaring ibigay sa Municipal o City Health Officer.)

The blood, urine, stool, and breast milk samples will not be taken out of the country, or not to be used for HIV or drug testing, but will be transported for appropriate storage and analysis stipulated in this document to FNRI-DOST in Manila.

(Ang dugo, ihi, dumi at gatas ng ina na galing sa mga kasali sa pagsusuri na ito ay hindi ilalabas ng Pilipinas, o gagamitin sa HIV o drug testing kundi dadalhin para suriin sa FNRI-DOST sa Manila ayon sa pagkakalathala sa dokumentong ito.)

The results on hemoglobin, FBS and lipid profile will be provided to the respondent(s) through the Barangay Captain or Rural Health Units.

(Ang kopya ng mga resulta ng hemoglobin, "FBS" at "lipid profile" ay ibibigay sa mga kasali sa pagsusuri na ito sa pamamagitan ng Barangay Captain o Rural Health Units.)

Any members of the household who will be diagnosed on-site of high blood pressure and anemia will be referred to the rural health unit for treatment while those who are underweight and overweight based on anthropometric assessment will be given appropriate nutrition counseling.

(Sino man sa mga miyembro ng sambayanan ang masusuri na may mataas na presyon sa dugo at "anemic" ay isasangguni sa "rural health unit" samantalang ang mga miyembrong may problema sa timbang ay mabibigyan ng pagpapayo ukol sa nutrisyon.)

Statement of Consent (Pahayag ng Pagsang-Ayon)

Being informed of the nature of research and the risks involved, I / we voluntarily and freely agree to take part as study participants in the 8th National Nutrition Survey.

(Ngayong naipabatid nang lubos ang mga paraan ng pagsasaliksik at mga panganib na maaring maidulot nito, ako/ kami ay kusang-loob at malayang sumasang-ayon na lumahok bilang mga "study participants" ng 8th National Nutrition Survey.)

In witness hereof, I/ we have hereto set our hands this _____ day of _____ 2013 at
(DAY) (MONTH)
Bilang saksi, ako/kami ay lumalagda ngayong ika- _____ araw ng _____ sa
(PLACE)

Signature of Household head over printed name
(Lagda ng Kumakatawan sa pamilya)
Date: _____

Signed in the presence of:
Nilagdaan sa harap ni:

Signature of FNRI Representative over printed name
(Lagda ng Kumakatawan sa FNRI)
Date: _____

In case there will be untoward incident or negative side effects felt by members of the household, who were examined, that is related to the study, please contact, _____ at _____
(Name of Project Leader) (Cellphone Number)
or the Food and Nutrition Research Institute at **Tel. Nos. 837-2934; 837-2071 to 82/ 839-1843 (Telefax).**

*(Kung sakaling mayroong hindi inaasahang insidente o negatibong epektong nararamdaman ng sino mang miyembro ng pamilya, na sinuri at may kinalaman sa pagsasaliksik, maari pong tawagan ang lider ng grupo sa numero ito, _____ o ang telepono ng Food and Nutrition Research Institute **(Tel. Nos. 837-2934; 837-2071 to 82/ 839-1843 (Telefax)).***



FOOD AND NUTRITION RESEARCH INSTITUTE

Department of Science and Technology
Gen. Santos Ave., Bicutan, Taguig, Metro Manila, Philippines
Tel. Nos. 837-2934; 837-2071 to 82; Fax No. (632) 837-3164

NAMD-T-002
Revision 0
March 7, 2013

Individual Consent for Biological Specimen Collection (Pahayag ng Pagsang-Ayon sa Pagkalap ng Bayolohikal na Sampol)

I. Household Members, 18 Years Old and Above

Being informed on the research protocol of the 8th National Nutrition Survey (NNS), I of legal age, affix my signature as a sign that I voluntarily join and willingly undergo the required blood extraction to be performed by registered medical technologist. Also, I'm willing to submit the needed urine and breastmilk samples (of lactating mother) to the survey team for analysis.

(Ngayong naipabatid nang lubos ang mga paraan ng pananaliksik ng "8th National Nutrition Survey", ako na nasa tamang edad, ay lumalagda bilang sinyales na ako ay kusang loob na lumalahok at malayang sumasang-ayon na magpasailalim sa narapat na pagkuha ng dugo na gagawin ng isang rehistradong "medical technologist". Magbibigay rin ako ng kinakailangan sampol ng ihi at gatas ng ina (kung nagpapasuso) sa surbey team upang ito'y masuri.)

In witness hereof, I set my hand to take part in the collection procedure of the survey.

(Bilang saksi, ako ay lumalagda bilang pakikiisa sa pamamaraan ng pagkalap ng surbey na ito.)

DATE	NAME	AGE	SIGNATURE

II. For Both Parent/Guardian and their Minors, 10.0 – 17.99 years old

In addition to the information I stated above, as parent and/ or guardian, I also allow my children 10.0 -17.99 years old to join voluntarily and submit him/her in all the examination procedure stated above as part of the nutrition survey. I also understand that such participation is **NOT** limited to my own consent, but also include the consent of my children 10.0-17.99 years old.

(Gayundin, bilang magulang o tumatayong tagapangalaga, ako ay sumasang-ayon rin na ang aking anak may edad 10.0-17.99 taong gulang ay makilahok sa lahat ng paraan ng koleksyon tulad ng nabanggit sa taas bilang bahagi ng nutrisyon surbey. Naiintindihan ko din na ang kanilang partisipasyon ay hindi lamang limitado sa aking pagsang-ayon, ngunit kasama rin ang pagsang-ayon ng aking anak may edad 10-17 taong gulang.)

In witness hereof, we set our hands to take part in the collection procedure of the survey.

(Bilang saksi, kami ay lumalagda bilang pakikiisa sa pamamaraan ng pagkolekta ng surbey na ito.)

DATE	NAME OF CHILD	AGE	SIGNATURE	NAME OF PARENT/GUARDIAN	SIGNATURE

III. For Parent/Guardian of Minors 6 months – 9.99 years old

As parent/guardian of infant (6 -12.99 months), pre-school (1 – 5.99 years old) and school age children (6 – 9.99 years old) listed below, I of legal age and with sound mind voluntarily allow my children to undergo the required blood extraction procedure and to submit the necessary biological specimen like urine and stool samples to the survey team for analysis.



(Bilang magulang/tagapangalaga ng mga sanggol at batang may edad 1 – 9.99 taong gulang na nakalista sa babang bahagi, ako na nasa tamang edad at pag-iisip, ay kusang loob na sumasang-ayon sa pagsasagawa ng nararapat na pagkuha ng dugo at pagbibigay sa surbey team ng kinakailangan bayolohikal na sampol tulad ng ihi at dumi ng aking anak upang ito'y masuri.)

In witness hereof, I set my hand to allow my children to take part in the collection procedures of the survey.

(Bilang saksi, ako ay lumalagda bilang pagsang-ayon na ang aking anak ay mapasali sa pamamaraan ng pagkolekta ng surbey na ito.)

DATE	NAME OF CHILD	AGE	NAME OF PARENT/GUARDIAN	SIGNATURE

Signed in the presence of:

Nilagdaan sa harap ni:

Signature of FNRI Representative over printed name

(Lagda ng Kumakatawan sa FNRI)

Date: _____

In case there will be untoward incident or negative side effects felt by members of the household, who were examined, that is related to the study, please contact, _____ at _____

(Name of Project Leader)

(Cellphone Number)

Tel. Nos. 837-2934; 837-2071 to 82/ 839-1843 (Telefax).

(Kung sakaling mayroong hindi inaasahang insidente o negatibong epektong nararamdaman ng sino mang miyembro ng pamilya, na sinuri at may kinalaman sa pagsasaliksik, maari pong tawagan ang lider ng grupo sa numero ito, _____ o ang telepono ng Food and Nutrition Research Institute **(Tel. Nos. 837-2934; 837-2071 to 82/ 839-1843 (Telefax)).**



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Department of Science and Technology
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Website: http://www.fnri.dost.gov.ph



"FIGHT MALNUTRITION WITH ACCURATE DATA, CORRECT INFORMATION, AND INNOVATIVE TECHNOLOGIES"

INFORMED CONSENT FORM
(PAGPAPAHAYAG NG PAGSANG-AYON)

NAMD-NT-018
Revision 1
18 March 2013

Ako, si _____, at ang miyembro ng aking pamilya ay isa sa mga napiling makasama sa survey ng FNRI. Base sa detalyadong pagpapaliwanag sa amin tungkol sa proyektong ito, kami ay lubos na sumusuporta at malayang sumasang-ayon sa mga sumusunod:

- pagkuha ng sukat sa aming katawan gaya ng taas, bigat, sukat baywang at balakang at iba pang sukat.
- pagkuha ng presyon ng dugo gamit ang sphygmomanometer na walang mercury sa mga kasapi sa bahay na may edad 10 taon pataas upang malaman kung mataas ang presyon.
- pagkuha ng impormasyon sa mga ina o taga-paghanda ng pagkain tungkol sa karanasan sa seguridad pang pagkain at mga paraan kung paano makasalba.
- pagtatanong sa mga ina ng tahanan upang malaman ang mga pamamaraan nang pagpapakain sa anak na edad 0-23 buwan.
- pagtatanong sa mga ina na may anak edad 0-36 buwan, buntis at nagpapasuso tungkol sa kaalaman sa pag-aalaga sa sarili at bata, pag-uugali, gawi sa nutrisyon, kalusugan at pangkalinisan sa katawan.
- pagtatanong sa partisipasyon ng pamilya sa iba't-ibang programa ng gobyerno tungkol sa kalusugan at nutrisyon.
- Pagkuha ng impormasyon tungkol sa kalagayan ng pangkabuhayan ng sambahayan.

Bilang kumakatawan sa aking pamilya, ako ay lumalagda ngayong ika-____araw ng _____
20____ sa _____.

Pangalan at Lagda ng kumakatawan sa pamilya

Pangalan at Lagda ng kumakatawan sa FNRI

Petsa

Petsa



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"FIGHT MALNUTRITION WITH ACCURATE DATA, CORRECT INFORMATION, AND INNOVATIVE TECHNOLOGIES"

INFORMED CONSENT FORM
(PAGPAPAHAYAG NG PAGSANG-AYON)

NAMD-NT-018
Revision 1
18 March 2013

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Bilang kumakatawan sa aking pamilya, ako ay lumalagda ngayong ika-____araw ng _____
20____ sa _____.

Pangalan at Lagda ng kumakatawan sa pamilya

Pangalan at Lagda ng kumakatawan sa FNRI

Petsa

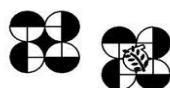
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F. Questionnaire – Household Membership and Information

All data obtained are CONFIDENTIAL and cannot be used for taxation, investigation or enforcement purposes.

NSCB Approval No.:
Expires:



REPUBLIC OF THE PHILIPPINES
FOOD AND NUTRITION RESEARCH INSTITUTE
DEPARTMENT OF SCIENCE AND TECHNOLOGY
MANILA

THE 2013 NATIONAL NUTRITION SURVEY

BOOKLET 1 - HOUSEHOLD

Geographic Identification Codes		Design Codes	
Region	<input type="text"/>	Replicate	<input type="text"/>
Province	<input type="text"/>	Stratum	<input type="text"/>
Mun/City	<input type="text"/>	PSU No.	<input type="text"/>
Bgy	<input type="text"/>	Rotation Grp.	<input type="text"/>
EA	<input type="text"/>	SHSN	<input type="text"/>
HCN	<input type="text"/>		

Household Identification	
Name of Respondent:	<input type="text"/>
Name of Household Head:	<input type="text"/>
Address:	<input type="text"/>
Contact Number:	<input type="text"/>

CERTIFICATION	
I hereby certify that the data gathered in this questionnaire were obtained/edited/reviewed by me personally and in accordance with the instructions.	
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
Signature(s) Over Printed Name(s) of Researcher(s)	Date Signed
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
Signature Over Printed Name of Team Leader	<input type="text"/>
Signature Over Printed Name of Office Editor	<input type="text"/>
Signature Over Printed Name of Data Encoder	Date Signed

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8th NNS FORM 1.1 – HOUSEHOLD MEMBERSHIP AND DEMOGRAPHIC INFORMATION

AREA CODE

HH CONTROL NO.

Combine codes for Region, Province, Municipality/City, Bgy and EA

HH SIZE

All Members		0-19.99 years	0-5.99 years	0-3.99 years	All Members										
1	2	3	4	5	6			7		8		9		10	
MEM NO	NAME	PARENTS	CAREGIVER	ADOPTED	DBIRTH			ESTDBTH		AGE		SEX		CSC	
MEMBER NUMBER	Please give me the names of the persons who usually sleeps and eat in your household, including those who are currently away from home (in other areas in the Philippines or abroad) starting with the head of the household Write <u>surname first</u> .	Who is the FATHER and the MOTHER of the child?	Who is the CAREGIVER of the child?	Is the child an adopted child?	When is the birthday of (NAME)? (Use the format Mo/Da/Year)			Is the given birth date of (NAME) estimated? (Date of birth is not known by the respondent)		How old is (NAME) as of his/her last birthday? If <6 yrs, record age in months If ≥6 yrs, record age in years and months (Preferably get the actual age in DCS)		Is (NAME) male or female?		What is (NAME)'s Civil Status?	
		FATH	MOTH	CARE	Code	MO	DA	YEAR	Estimated Date of Birth	Code	YRS	MOS	Sex	Code	Civil Status
0 1															
0 2															
0 3															
0 4															
0 5															
0 6															
0 7															
0 8															
0 9															
1 0															
1 1															
1 2															
1 3															
1 4															
1 5															
Codes for #5 (Is the child adopted?) 0 – No 1 – Yes Codes for #7 (Estimated birth date) 0 – No 1 – Yes Codes for #9 (Sex) 1 – Male 2 – Female		Codes for #10 (Civil Status) 1 – Single 2 – Married 3 – Live-in 4 – Widow/ widower 5 – Separated/ Annulled/ Divorced 6 – Unknown		Codes for #11 (Physiological Status) 0 – NP/NL 1 – Pregnant 2 – Lactating 99 – Male <i>For pregnant or lactating, ask the weeks of pregnancy or months of lactation</i>						Codes for #14 (Relationship to Household Head) 0 – Not related (helper, friends who lived with them) 1 – Household Head 2 – Husband/Wife 3 – Son/ daughter /stepson/ stepdaughter 4 – Son or daughter in law (legally married) 5 – Son or daughter in law (not legally married) 6 – Grandchild 7 – Parent 8 – Parent-in-law 9 – Brother or sister 10 – Other relatives					



8th NNSFORM 1.2 –HOUSEHOLD AND OTHER DEMOGRAPHIC INFORMATION

AREA CODE RESEARCHER
(Copy from NNS Form 1.1)

HH CONTROL NO. EDITED BY
(Copy from NNS Form 1.1)

NAME OF RESPONDENT MEMBER NUMBER
(Copy from NNS Form 1.1)

This form collects information on the socio-economic status of the sample household. This includes information on the type and kind of materials used for dwelling unit, tenure status and number of bedrooms of the dwelling unit, type of fuel used, presence of electricity, utilities and appliances owned. The toilet facility, water and sanitation, garbage disposal and other information which have bearing on the health status and exposure to diseases of the household are also collected.

I. HOUSEHOLD INFORMATION

1. What is the type of your household? <i>"Ilang pamilya/katao ang nakatira sa bahay na ito?"</i>	HHTYPE	1 – Single or 1 person 2 – 2-person household/couple 3 – Single family 4 – Extended two-family 5 – Extended more than two-family 6 – Others, Specify: _____
2. Based on your observation, what is the type of dwelling unit of the household? <i>"Ano ang uri ng bahay na inyong tinitirahan?"</i>	DWELTYPE	1 – Single house 2 – Duplex 3 – Apartment/Condo/Tenement/BLISS 4 – Commercial 5 – Makeshift/Barong-barong 6 – Junked cart/tricycle/jeep, etc.
3. What is the tenure status of the dwelling unit you are occupying? <i>"Ano ang estado ng inyong pagtira dito sa inyong bahay?"</i>	TENURHWS	1 – Own 2 – Rent 3 – Free (caretaker, owned by parents/relatives) 4 – Squat (settle in public/private dwelling units/ structure w/o permission)
4. What is the tenure status of the lot you are occupying? <i>"Ano ang estado ng inyong pagtira dito sa lupang kinatatayuan ng inyong bahay?"</i>	TENURLOT	1 – Own/Being Amortized 2 – Rent 3 – Free (caretaker, owned by parents/relatives, with owner consent) 4 – Squat (settle in public/private lands w/o permission)
Based on your observation..... (For questions 8-10)		
5. What is the main roofing material of the household's dwelling unit? <i>"Ano ang pangunahing uri ng bubong ng inyong bahay?"</i>	ROOF	1 – Natural materials (nipa, cogon, coconut leaves) 2 – Iron sheets 3 – Tegula/tisa 4 – Cement 5 – Salvaged (scrap materials, cartons, used iron sheet)
6. What is the main material used for the wall of the household's dwelling unit? <i>"Ano ang pangunahing uri ng dingding ng inyong bahay?"</i>	WALL	1 – Strong (cement, marble, adobe) 2 – Light (wood, bamboo, coconut leaves, lawanit, etc.) 3 – Combination of strong and light 4 – Salvaged (scrap materials, cartons, used iron sheet)
7. What is the main flooring material of the household's dwelling unit? <i>"Ano ang pangunahing uri ng sahig ng inyong bahay?"</i>	FLOOR	1 – Earth/Sand 2 – Wood planks 3 – Coco Lumber/Bamboo 4 – Marble 5 – Parquet or polished 6 – Ceramic tiles 7 – Vinyl or asphalt strips 8 – Plain cement
8. In your dwelling unit, how many bedrooms do you have? <i>"Ilan ang silid tulugan ng inyong bahay?"</i>	BEDROOM	Actual number of bedrooms: _____ 0 – None(one-room affair)
9. What type of fuel does your household mainly used for cooking? <i>"Ano ang inyong kadalasang ginagamit na pangluto ng inyong pagkain?"</i>	FUELUSED	1 – Electricity 2 – Liquefied petroleum Gas (LPG) 3 – Natural gas 4 – Kerosene 5 – Charcoal 6 – Wood 7 – Biomass/Agricultural Crop (Sawdust/Hull, etc.) 8 – Animal Dung

I. HOUSEHOLD INFORMATION (cont'n.....)			
10. Does your household or any member of the household <u>own</u> the following transport utilities: <i>"Meron ba kayo o kahit sino sa inyong pamilya ng mga sumusunod na sasakyan :"</i> Multiple Responses. Check all that applies. 0 – No 1 – Yes	BICYCLE	Bicycle/trisikad	<input type="checkbox"/>
	SINGLE	Motorcycle/tricycle	<input type="checkbox"/>
	CAR/JIP/VAN	Car/Jeep/Van	<input type="checkbox"/>
	TRACTOR	Tractor	<input type="checkbox"/>
	CARITELA	Animal-drawn cart	<input type="checkbox"/>
	BOAT	Motor Boat/Banca	<input type="checkbox"/>
11. Do you have <u>electricity</u> in the household? <i>"Meron ba kayong kuryente sa inyong bahay?"</i>	ELECTRICT	0 – No, without meter/connection 1 – Yes 2 – Yes, using generator 3 – Yes, but disconnected 4 – Yes, tap from neighbor 5 – No electricity in the area	
12. What <u>functioning household appliances/ fixtures</u> does the household have? <i>"Anu-ano ang mga kasangkapan sa inyong bahay na gumagana at ginagamit ninyo?"</i> Multiple Responses. Check all that applies. 0 – No 1 – Yes	COMPU	Computer/Laptop/Tablet/Playstation	<input type="checkbox"/>
	TELEPHONE	Telephone (landline)	<input type="checkbox"/>
	CELLPHONE	Cellphone/Smartphone	<input type="checkbox"/>
	TELEVISION	Television	<input type="checkbox"/>
	RADIO	Radio/Cassette Recorder	<input type="checkbox"/>
	VCD	VCD/DVD Player/Mini component/karaoke	<input type="checkbox"/>
	CAMERA	Camera/Video Camera	<input type="checkbox"/>
	REF	Refrigerator/Freezer	<input type="checkbox"/>
	RANGES	Stove/Range/Microwave Oven	<input type="checkbox"/>
	BLENDER	Food processor/blender	<input type="checkbox"/>
	GENERATOR	Electric generator	<input type="checkbox"/>
	AIRCON	Air Conditioner	<input type="checkbox"/>
	WASHMCN	Washing Machine/dryer	<input type="checkbox"/>
	FAN	Electric Fan	<input type="checkbox"/>
	SEWMCN	Sewing Machine	<input type="checkbox"/>
PIANO	Piano/organ	<input type="checkbox"/>	
WALLCLOCK	Wall clock	<input type="checkbox"/>	
13. Do you currently have <u>house helper</u> ? <i>"Mayroon ba kayong kasambahay ngayon?"</i>	HOUSEHELP	0 – No 1 – Yes	
II. WATER AND SANITATION			
14a. What is the main source of drinking water of the household? <i>"Ano ang pangunahing pinagkukunan ninyo ng tubig na inyong iniinum?"</i>	WDRINKNG	Piped Water (waterworks system) 11 – Piped into dwelling 12 – Piped to yard/plot 13 – Public tap/stand pipe 21 – Tube well or borehole Dug Well 31 – Protected Dug Well 32 – Unprotected Dug Well Water from Spring 41 – Protected spring 42 – Unprotected spring 51 – Rainwater 61 – Tanker truck 71 – Cart with small tank 81 – Surface water (river, dam, etc.) 91 – Bottled/Mineral water	
14b. Do you make your water to safer to drink? <i>"Mayroon ba kayong ginagawang paraan upang ang inyong tubig ay maging malinis at ligtas inumin?"</i>	DRINKSAFE	0 – No 1 – Yes 9 – NA (if bottled water)	→ Q#15 → Q#15
14c. How do you make your water safer to drink? <i>"Paano nyo ginagawang maging malinis ang inyong tubig at ligtas itong inumin?"</i>	MAKESAFE	1 – Boil 2 – Add bleach/chlorine 3 – Use water filter (ceramic, sand, charcoal, etc.) 4 – Improvised filter (cloth, sponge) 5 – Solar disinfection 6 – Let it stand or settle 9 – NA (if bottled water)	

II. WATER AND SANITATION (cont'n.....)			
<p>15. What is the <u>main source of water</u> of the household used for cooking and handwashing?</p> <p><i>"Ano ang inyong pangunahing pinagkukunan ng tubig na ginagamit ninyong pangluto ng pagkain at panghugas ng kamay?"</i></p> <p>Cooking <i>"pangluto"</i> Washing hands <i>"panghugas ng kamay"</i></p>	<p>WCOOKING WHANDS</p>	<p>Piped Water (waterworks system) 11 – Piped into dwelling 12 – Piped to yard/plot 13 – Public tap/stand pipe</p> <p>21 – Tube well or borehole</p> <p>Dug Well 31 – Protected Dug Well 32 – Unprotected Dug Well</p> <p>Water from Spring 41 – Protected spring 42 – Unprotected spring</p> <p>51 – Rainwater 61 – Tanker truck 71 – Cart with small tank 81 – Surface water (river, dam, etc.) 91 – Bottled/Mineral water</p>	
<p>16a. What type of <u>toilet facility</u> do the household members usually use?</p> <p><i>"Anong uri ng palikuran ang kadalasang ginagamit ng mga miyembro ng inyong pamilya?"</i></p>	TOILET	<p>0 – No toilet facility (bush, field, river, etc.) → Q#17 1 – Water-sealed (pour/flush with septic tank) 2 – Not water-sealed (pour/flush without septic tank, pit latrine with or without slab/open pit)</p>	
<p>16b. Does the household <u>share the toilet</u> facility with other household?</p> <p><i>"Maliban sa inyong pamilya, may iba pa bang pamilya o tao na gumagamit ng palikuran na ito?"</i></p>	SHAREIT	<p>0 – No, exclusive for family use 1 – Yes, share it with other households or not exclusive 2 – Yes, public use toilet 9 – NA (if no toilet)</p>	
<p>17. How do you usually <u>dispose your garbage</u>?</p> <p><i>"Paano kayo kadalasan nagtatapon ng inyong basura?"</i></p> <p>Multiple Responses. Check all that applies.</p>	<p>COLLECT BURN COMPOSTING DUMP</p>	<p>0 – No 1 – Yes</p> <p>By collector system Burning Compost pit Dumping/Throwing</p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>18. Does the household practice <u>garbage segregation</u>?</p> <p><i>"Pinaghihiwalay nyo ba ang nabubulok at di-nabubulok na basura?"</i></p>	SEGREGATE	<p>0 – No 1 – Yes</p>	

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