REGIONAL NUTRITION SITUATION

For the past four years, survey results revealed significant improvements in the over-all nutrition situation in Region I. However, undernutrition (underweight, wasting and stunting) still persisted in the region with growing on overnutrition while micronutrient malnutrition was still public health concerns.

The term "malnutrition" refers to both undernutrition and overnutrition. Undernutrition encompasses Protein- Energy Malnutrition (PEM) and deficiency of micronutrients, including essential vitamins and minerals. On the other hand, overnutrition is a form of malnutrition in which nutrients are oversupplied relative to the amounts required for normal growth, developments and metabolism. It may be regarded as a form of malnutrition leading to obesity.

Children particularly 0-5 years old (preschool children) and 6-10 years old (school children), pregnant and lactating women were the most vulnerable age groups to malnutrition.

Malnutrition was measured through anthropometric measurement using the following indicators: weight-for-age, weight-for-height/length and height/length-for-age to determine underweight, stunting, wasting, overweight and obesity while micronutrient deficiencies or disorders such as Iron Deficiency Anemia, Iodine Deficiency Disorders and Vitamin A Deficiency Disorders were measured through biochemical assessment.

Statistical data can be generated from the following sources:

a. National Nutrition Survey (NNS)- This is conducted by the Food and Nutrition Research Institute (FNRI) of the Department of Science and Technology (DOST) every five years, updated on a midterm basis.
b. *Operationg Timbang* Plus (OPT+)- This is an annual weighing procedure done at the barangay level being undertaken by the LGUs to monitor the nutritional status of the preschool children. Also, this is an alternative source of data to look at the nutritional status on a year-to-year basis.

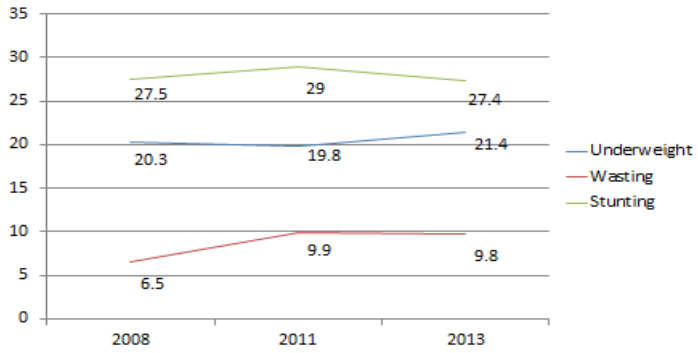
The updated nutrition situation in the region based on the latest NNS and OPT+ is shown in the figures below:

UNDERNUTRITION: UNDERWEIGHT[1], STUNTING[2] AND WASTING[3] STILL PERSIST IN THE REGION

- **Preschool Children**

Based on the result of the National Nutrition Survey *(Figure I),* the trend in the prevalence of underweight among preschool children ages 0-5 years old showed a significant increase of 1.6 point percentage. The prevalence of wasting and stunting showed a slight reduction. However, the rate of wasting in Region I was the highest among regions together with MIMAROPA Region.

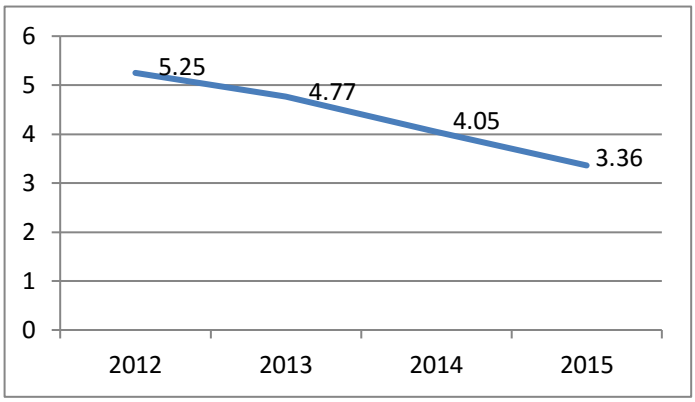
Figure I: *Trend in the Prevalence of Underweight, Stunting, and Wasting among Preschool Children 0-5 years old in the Region in percent from 2008-2013.*



Source: National Nutrition Survey, FNRI-DOST

The prevalence of underweight among preschool children aged 0-71 months old in the region based on the results of the annual *Operation Timbang Plus (OPT+)* for the past four years *(Figure 2)* revealed a consistent decrease annually from 5.25% in 2012 to 3.36% in 2015 with 0.4 point percentage average annual reduction. Three (3) out of Ten (10) preschoolers in the region have low weight compared to the recommended weight for their age in 2015.

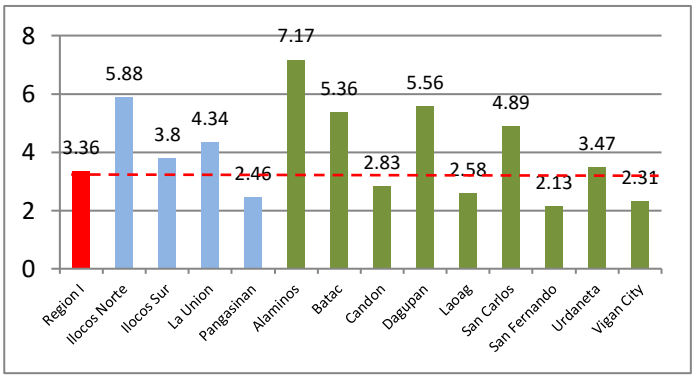
Figure 2: *Trend in the prevalence of underweight among preschool children ages 0-71 months old in the Region based on OPT+ Result.*



Source: Operation Timbang Plus (OPT+), NNC-ROI

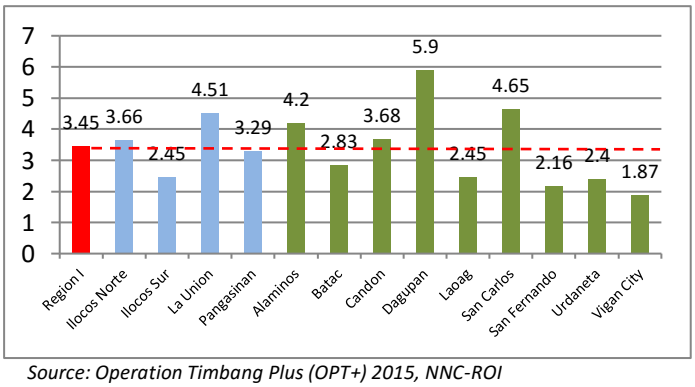
Figure 3a showed that three (3) in every one hundred (100) preschool children are underweight in the region. Among the provinces/cities, Ilocos Norte, Ilocos Sur, La Union, Alaminos, Batac, Dagupan, San Carlos & Urdaneta have prevalence of underweight & severely underweight Pre-Schoolers children higher than the regional prevalence *(Figure 3a).* Data on stunting *(Figure 3b)* also revealed that nine (9) in every one hundred (100) preschoolers in the region had lower height/length compared to the recommended for their age based on the World Health Organization- Child Growth Standards (WHO-CGS). The Provinces of Ilocos Norte and La Union and the Cities of Vigan, Candon, Batac and Alaminos had higher rate than the regional average. Moreover, wasting still persist in the region *(Figure 3c)*. Three (3) out of one hundred (100) PS children had low weight compared to their height/length. The Provinces of Ilocos Norte and La Union and the Cities of San Carlos, Dagupan, Candon and Alaminos had higher rate than the regional averages. Vigan City had the lowest rate of 1.87%.

Figure 3a: *Prevalence of Combined Underweight and Severely Underweight Preschool Children Ages 0-71 months by Province/City, Region 1, 2015.*



Source: Operation Timbang Plus (OPT+) 2015, NNC-ROI

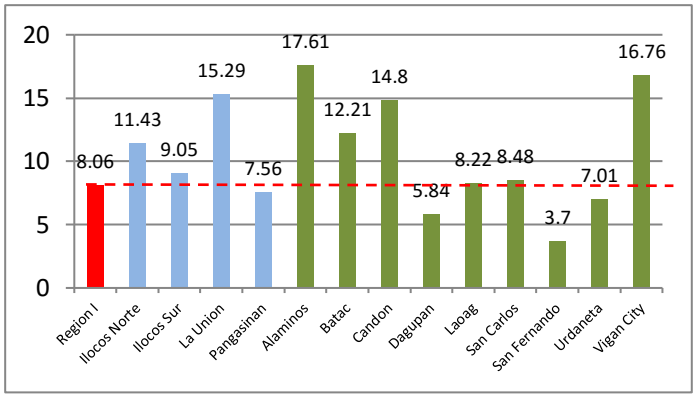
Figure 3b: *Prevalence of Combined Wasted and Severely Wasted Preschool Children Ages 0-71 months by Province/City, Region 1, 2015.*



Source: Operation Timbang Plus (OPT+) 2015, NNC-ROI

Underweight[1] (Weight—for-age)- *is an indicator of current and past nutritional status*
Stunting[2] (Height/Length-for-Age)- *is an indicator of long standing or chronic malnutrition*
Wasting[3] (Weight-for-Height/Length)- *is an indicator of acute malnutrition.*

Figure 3c: *Prevalence of Combined Stunted and Severely Stunted Preschool Children Ages 0-71 months by Province/City, Region 1, 2015.*

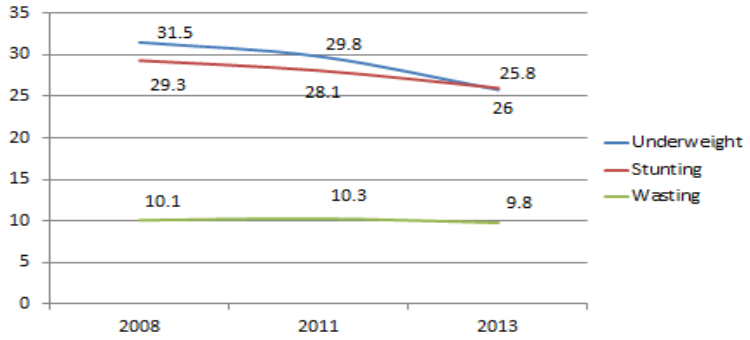


Source: Operation Timbang Plus (OPT+) 2015, NNC-ROI

- **School Children**

There had been a slight decrease in the prevalence of underweight, stunting and wasting from 2011 to 2013 among school children *(Figure 4).* The regional rate for underweight and wasting is relatively lower than the national average of 29.1 and 29.9 in 2013, respectively. Moreover, the prevalence of wasting in the region is higher than the national rate of 8.6.

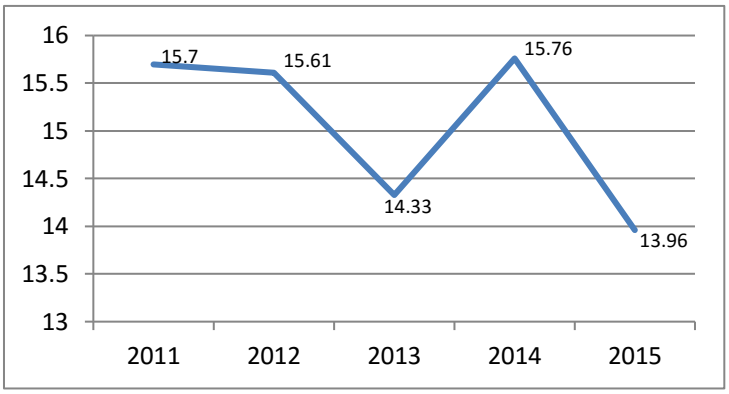
Figure 4: *Trend in the Prevalence of Underweight, Stunting, and Wasting among School Children 5.08-10.0 years old in the Region.*



Source: National Nutrition Survey, FNRI-DOST

DepEd Nutritional Assessment revealed a significant decrease from 2011 to 2013 but showed an increase of 1.46 point percentage in 2014 *(Figure 5).* The latest survey showed a significant decrease for the past two years with 1.8 point percentage reduction. For 2015, fourteen (14) out of one hundred (100) school children in the region had low weight compared to their height based on WHO- Child Growth Standards.

Figure 5: *Trend in the Prevalence of combined wasted and severely wasted among School Children in the Region from 2011 to 2015.*



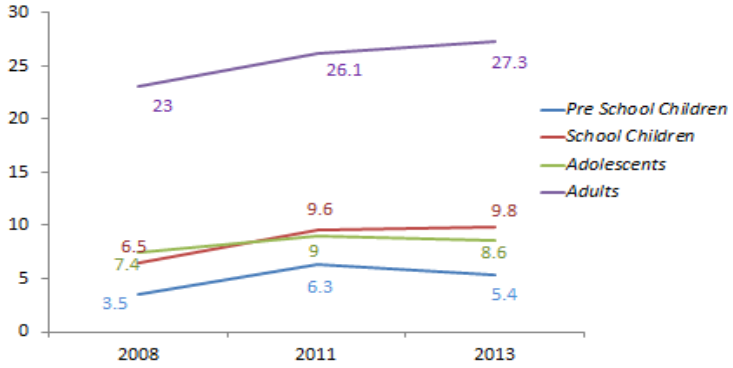
Source: DepEd Nutritional Assessment

OVERWEIGHT AND OBESITY[4]: THE GROWING CONCERN OF MALNUTRITION FORM IN THE REGION AMONG ALL AGE GROUPS.

Overnutrition is an abnormal or excessive fat accumulation that may impair health. Persons who are overweight or obese are exposed to serious health risks such as cardiovascular diseases, type 2 diabetes, cancer and musculoskeletal disorders like arthritis. Overweight and obese people are also at risk for developing certain conditions like hypertension, dyslipidemia, sleep apnea, breathing problems, liver diseases and gallbladder diseases.

National Nutrition Survey result revealed a consistent increase on the prevalence rate of overweight and obesity among adults and school children from 2008 to 2013 with slight decrease among adolescents and preschoolers from 2011 to 2013 *(Figure 6).*

Figure 6: *Prevalence of overweight and obesity among all age group in the region from 2008-2013.*

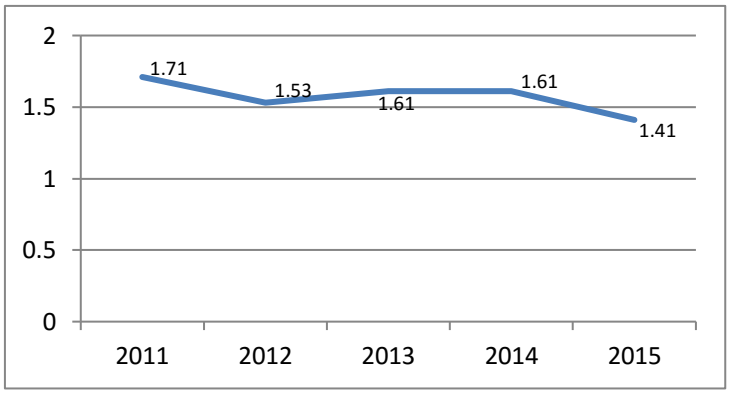


Source: National Nutrition Survey, FNRI-DOST

Overweight and obesity[4]- *is the weight above normal for height based on the World Health Organization- Child Growth Standards (WHO-CGS).*

Operation Timbang Plus result revealed a point three (.3) percentage point reduction from 2011 to 2015. However, a fluctuating trend in which the 2012 data increased in 2013 by 0.08 percentage point and 2013 result remained in 2014 (Figure 7).

Figure 6: *Trend in the prevalence of overweight among pre-school children ages 0-71 months in the region from 2011-2015.*



Source: Operation Timbang Plus, NNC-ROI

MICRONUTRIENT DEFICIENCIES[5] (VAD, IDA, IDD): STILL A PUBLIC HEALTH CONCERN IN THE REGION.

- ***Vitamin A Deficiency[6]***

In the Philippines, the National Nutrition Survey reported significant gains as levels of vitamin A deficiency among children ages 6 months to 5 years from 2003 to 2008 decreased from 40.1 percent to 15.2 percent, respectively.

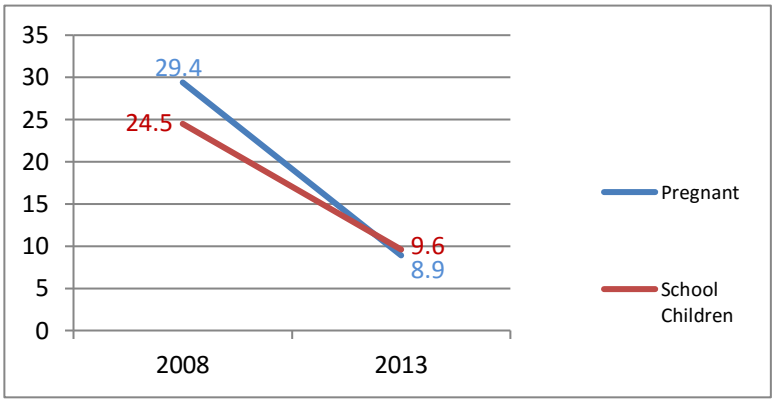
- ***Iron Deficiency Anemia[7]***

National Nutrition Survey showed a significant decrease on the prevalence of Iron Deficiency Anemia among pre-schoolers from 29.4% in 2008 to 8.9% in 2013 and among school children from 24.5% to 9.65 in 2008 and 2013, respectively *(Figure 7).*

Among other age group like adolescents and adults, same survey revealed a significant decrease from 11.6% and 14.9% in 2008 to 4.7% and 7.7% in 2013, respectively.

In the Philippines, same survey also revealed a significant decrease on the prevalence of Iron Deficiency Anemia (IDA) among pregnant and lactating women from 42.5% and 31.6% in 2008 to 25.2% and 16.6% in 2013.

Figure 7: *Trend in the prevalence of Iron Deficiency Anemia (IDA) among pre-school children ages 6 months-5 years and School children ages 6-12 years old in the region from 2008-2013.*



Source: National Nutrition Survey, FNRI-DOST

- ***Iodine Deficiency Disorders***[8]

The National Nutrition Survey showed a decrease in the awareness and usage of iodized salt among household both in the country and in the region.

The epidemiological criteria for assessing the iodine nutrition are based on the Median Urinary Iodine Concentrations and adequate iodine intake ranges from 100-199 micrograms per liter of median value. Areas with 20% or higher households with <50 micrograms reveal a public health concern.

The result showed an improved Iodine deficiency among school children from 1998 to 2013; however, IDD is still prevalent among pregnant and lactating women in the country and in the region *(Figure 8)*.

Micronutrient Deficiency[5]- *also known as "Hidden Hunger" or deficiencies in Vitamin A, Iron and Iodine can cause harm in the body organs and their functions without manifesting hunger.*

Vitamin A deficiencies[6] **(VAD)-** *may result in xeroptalmia (dryness of the eye), night blindness (inability to see in dim light), sensitivity of eyes to bright light, and blindness in severe cases, among others.*

Iron Deficiency Anemia[7] **(IDA)-** *is an indication of lack of iron in the diet. It occurs if the amount of iron in the body is insufficient to meet the body's demands. It can also occur due to chronic blood loss and/or decreased physical development, long-term cognitive impairment, and poor growth among infants. This results to poor school performance among children, decreased work performance among adults; risk of low birth weight for infants, and increased maternal mortality among pregnant women.*

Iodine Deficiency Disorders[8] **(IDD)-** *result from low intake of iodine in the diet and presence of goitrogens in food which interferes with the normal absorption of iodine. Iodine is one of the essential micronutrients for humans and 70-80% is concentrated in the thyroid gland. The recommended daily requirement for adult is 150 micrograms which is equivalent to ¼ to ½ tsp of iodized salt. To ensure adequacy of iodine intake among individual, the national salt iodization program particularly the adequately iodized salts play a vital role.*

Figure 8a: *Trend on the Median UIE and proportion of UIE values <50 micrograms among 6-12 years old children in the Philippines and in the region.*

Region	1998		2008		2013	
	Median	% <50 µg/L	Median	% <50 µg/L	Median	% <50 µg/L
PHILIPPINES	71	35.8	132	19.7	168	16.4
Ilocos	82	30.7	159	9.9	173	17.5
Cagayan	83	30.5	233	4.7	223	10.6
Central Luzon	110	23.4	191	10.2	203	11.3
CALABARZON	79	30.5	170	11.9	236	8.1
MIMAROPA			115	28.3	136	19.5
Bicol	56	42.8	135	13.7	150	18.7
Western Visayas	69	38.8	117	24.0	125	23.4
Central Visayas	67	35.2	119	24.5	166	14.7
Eastern Visayas	67	35.9	83	37.7	161	15.4
Zamboanga Peninsula	56	44.6	84	26.0	68	41.1
Northern Mindanao	34	63.9	90	30.4	121	23.6
Davao	63	39.2	68	37.4	122	24.3
SOCCSKSARGEN	58	45.9	109	27.9	137	19.9
NCR	94	21.7	202	13.8	220	8.9
CAR	63	40.1	158	13.8	123	26.4
ARMM	103	24.9	101	17.8	128	20.6
CARAGA	56	44.9	85	36.1	128	18.1

Source: National Nutrition Survey, FNRI-DOST

Figure 8b: *Trend on the Median UIE and proportion of UIE values <50 micrograms among pregnant women in the Philippines and in the region.*

Region	2008		2013	
	Median	% <50 µg/L	Median	% <50 µg/L
PHILIPPINES	105	25.7	105	27.0
Ilocos	82	16.9	106	27.9
Cagayan	157	17.8	79	31.1
Central Luzon	143	13.6	116	26.8
CALABARZON	111	29.0	131	22.0
MIMAROPA	75	34.5	63	29.4
Bicol	125	18.9	120	26.2
Western Visayas	111	23.8	68	37.9
Central Visayas	82	26.0	111	26.2
Eastern Visayas	83	44.0	104	18.4
Zamboanga Peninsula	68	36.8	51	46.9
Northern Mindanao	38	50.3	64	43.4
Davao	62	40.0	80	32.2
SOCCSKSARGEN	105	33.4	90	33.7
NCR	135	11.7	157	15.4
CAR	107	18.3	68	46.9
ARMM	85	26.5	100	26.2
CARAGA	94	32.8	86	22.5

Source: National Nutrition Survey, FNRI-DOST

Figure 8c: *Trend on the Median UIE and proportion of UIE values <50 micrograms among lactating women in the Philippines and in the region.*

Region	2008		2013	
	Median	% <50 µg/L	Median	% <50 µg/L
PHILIPPINES	81	34.0	77	34.3
Ilocos	112	21.9	55	44.9
Cagayan	161	18.5	98	23.6
Central Luzon	94	29.1	84	29.3
CALABARZON	97	23.9	94	33.8
MIMAROPA	67	37.4	51	47.2
Bicol	97	26.5	93	29.5
Western Visayas	74	38.3	62	41.1
Central Visayas	63	45.6	87	25.7
Eastern Visayas	58	47.2	87	31.3
Zamboanga Peninsula	48	51.8	48	50.3
Northern Mindanao	55	47.0	53	48.7
Davao	50	48.8	65	41.9
SOCCSKSARGEN	72	43.2	75	34.7
NCR	128	12.7	98	27.4
CAR	99	24.4	60	41.8
ARMM	88	23.8	94	28.6
CARAGA	49	50.1	85	29.4

Source: National Nutrition Survey, FNRI-DOST

Generally, there were significant gains in all government efforts to address malnutrition in the region as revealed on the updated regional nutrition situation. However, undernutrition (underweight and wasting) still persist in the region with growing concern on overnutrition (overweight and obesity) and micronutrient malnutrition still remain a public health concern. Addressing these concerns need a collaborative and intensified efforts among all concerned agencies with strong linkage and coordination among local government units including non- government organizations.

Based on the review of the regional and local nutrition plan implementation, the following policies, programs, projects and related laws were identified as contributory on the significant gains in addressing these problems:

Reduction of Undernutrition

- Presence of law and policies such as RA10028 "Expanded Breastfeeding Act"; EO51 "Milk Code"; DOH-AO No. 2010-090 "Revised Policy and Guidelines in Micronutrient Supplementation"; RA7600 "Rooming-in and Breastfeeding Act"; DOH-AO 2008-2009 "Maternal, Neonatal, Child Health and Nutrition"; DOH-AO 2005-0014 "Survival of Infants and Young Children by Improving their Nutritional Status, Growth and Feeding"; NNC Governing Board Resolutions, RNC and RDC Resolutions.
- Promotion of early and regular care for pregnant women
- Inclusion of key nutrition services in pre-natal care
- Promotion of desirable Infant & Young Child Feeding practices
- Promotion of positive caring services
- Administration of zinc supplements as preventive and therapeutic intervention of diarrhea
- Ensure wide coverage of sanitary toilet facilities and safe drinking water supply, and promote personal hygiene and sanitation with emphasis on hand washing
- Deworming of children
- Protection of the nutritional status of women and children in disaster situations
- Watch over media to ensure that concerns on the care of pregnant and lactating women as well as infant and young children are projected appropriately
- Mother baby friendly environment in facilities and workplaces
- Supplementary Feeding
- Strengthening nutrition education
- Immunization of pre-schoolers
- Provision of livelihood assistance
- Distribution of seeds, seedlings
- Backyard and community gardening, *Gulayan sa Paaralan*
- *Pantawid Pamilyang Pilipino* Program (4Ps)
- Adoption/ implementation of WHO-CGS OPT Plus

Reduction on the Prevalence of Micronutrient Deficiencies

- Presence of relevant laws and policies such as DOH-AO 2010-090 "Revised Policy and Guidelines on Micronutrient Supplementation"; RA8976 "Food Fortification Law"; RDC and RNC Resolutions
- Increased and sustained coverage of Vitamin A supplementation through *Garantisadong Pambata*
- Provided supply for routine supplementation for high risk cases in disaster situations
- Integrated Vitamin A supplementation as a service during disasters
- Promoted production and consumption of Vit. A rich foods
- Promotion on the utilization of fortified foods
- Controlled and managed infections especially among young children, pregnant and lactating women
- Provided iron supplements especially for pregnant women and infants

- Promoted production and consumption of animal foods as source of iron
- Ensured supply of quality Iodized Salt through:
    - *Strict enforcement supported by close monitoring at site of production, and market outlets*
    - *Deputizing LGUs to monitor compliance with the law through the reorganization, reactivation of Bantay Asin task Force*
    - *Ensuring compliance with standards*
- Enhanced capacities of salt producers in implementing quality control scheme.
- Regular monitoring of *Asin* to market

Reduction of Overweight and Obesity

- Promotion of healthy lifestyle through intensified physical activities
- Nutrition education and counseling
- Regular check-up and provision of medicines to patients with diseases related to diet

Challenges and factors affecting optimum implementation of nutrition programs

- Low support for nutrition program since nutrition is not a priority of some local chief executives
- Inadequate local policies and resolutions in support to nutrition
- Inadequate Supplementary Feeding Program for undernourished children and pregnant women
- Inadequate funds for the fabrication of wooden height boards with steel rules
- Limited Livelihood Projects
- Low awareness on proper nutrition and negative attitude of priority targets towards government programs
- Low compliance on ASIN Law by Salt Producers and weak monitoring system by concerned entities
- Limited multimedia campaign on proper nutrition
- Unavailability of Iron- Fortified Rice in the Market
- Most local nutrition counterparts were designates with other priority functions incumbent with their position