

PPAN 2015 REPORT

Addressing the Challenge of **OVERWEIGHT & OBESITY** in the Philippines



NATIONAL NUTRITION COUNCIL
December 2016

“Pioneering spirit should continue, not to conquer the planet or space... but rather to improve the quality of life.”
- Bertrand Piccard

ISSN No. _____

Philippine Copyright 2017
NATIONAL NUTRITION COUNCIL

Published by:
NATIONAL NUTRITION COUNCIL
Nutrition Building, 2332 Chino Roces Avenue Extension
Taguig City, Philippines

Editorial Staff:

Maria-Bernardita T. Flores, RND, MPS-FNP, CESO II
Hygeia Ceres Catalina B. Gawe, RND, MPS-FNP
Ellen Ruth F. Abella, RND, MPM
Racelline Faye D. Calangi, RND

This report to be published annually, may be reproduced in part or whole provided that the National Nutrition Council is acknowledged as source.

Recommended Citation:

National Nutrition Council (NNC). 2017. *Philippine Plan of Action for Nutrition Report 2015*. Chino Roces Avenue Extension, Taguig City, Metro Manila, Philippines.

TABLE OF CONTENTS

Messages	4
List of Abbreviations	6
Foreword	7
Introduction	9
Case Studies:	
OW-OBESE PO by Mandaluyong City	15
Healthy Lifestyle Program by Sophia School	20
Belly Gud for Health by Department of Health – Central Office	24
Weight Management Program by Bangko Sentral ng Pilipinas	28
Balanga City Go 4 Health Program by Balanga City	35
Reflections	38
Notes to the Case Studies	40
Works Cited / Bibliography	49
Acknowledgments	51

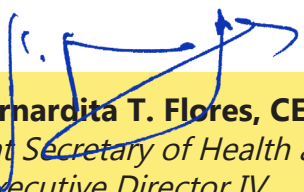
MESSAGE

FROM THE EXECUTIVE DIRECTOR

The National Nutrition Council is the country's highest policy-making and coordinating body on nutrition. At NNC, we facilitate the formulation of the Philippine Plan of Action for Nutrition (PPAN) as the country's framework for nutrition improvement and as critical input to national development. To monitor, evaluate and coordinate the implementation of the PPAN down to the barangay level, initiatives such as consolidation of annual and quarterly reports covering all relevant nutrition programs by LGUs, coordinating the conduct of Program Implementation Reviews (PIR) and Monitoring and Evaluation of Local Level Plan Implementation (MELLPI) are all being done.

In order to come up with a comprehensive but focused report on a specific aspect of the country's nutritional concern, an annual thematic report focusing on the current year's nutrition month theme was identified as a strategy. For 2015, with the theme "Timbang Iwasto, sa Tamang Nutrisyon at Ehersisyo!", this report was packaged offering a snapshot of the country's nutrition situation focused on overnutrition, bringing to light the importance of proper diet and exercise and long-term impacts to one's health. While we usually hear statistics on malnutrition over different media channels, we often overlook that malnutrition involves both under and overnutrition.

This first PPAN Report hopes to aid in documenting commendable programs as well as challenges of implementing programs on weight management by various sectors and stakeholders as part of history-taking. We may still have a long way to achieve improved nutrition in the country, but as Orison Swett Marden once said, **"Achievement is not always success, while reputed failure often is. It is honest endeavor, persistent effort to do the best possible under any and all circumstances."**


Maria-Bernardita T. Flores, CESO II
*Assistant Secretary of Health and
Executive Director IV*



MESSAGE

FROM THE SECRETARY OF HEALTH

The Philippine Plan of Action for Nutrition (PPAN) provides the framework for improving the nutritional status of the Filipinos. It lays out strategic directions and priority actions based on the guiding principle that good nutrition is a basic human right. As such, each Filipino is responsible for the nutritional well-being of his/her family, while the government and others in the development sector, as duty bearers, have the responsibility to assist those who are yet unable to enjoy the right to good nutrition.

Specifically, the PPAN aims to reduce hunger, child and maternal undernutrition, deficiencies in iron, iodine and vitamin A, and overweight and obesity. Of these identified challenges, one of the fastest-rising concern is on overweight and obesity. Prevalence of overweight among children 0-5 years old doubled from 2.4% in 2003 to 5.0% in 2013. Similarly, 3 out of 10 adult Filipinos (31.1%) were reported overweight and obese according to the 2013 National Nutrition Survey. Immediate actions are thus necessary to prevent childhood obesity from continuing to adolescence and adulthood, as these will lead to serious health consequences and non-communicable diseases such as Type II diabetes, coronary and vascular diseases, hypertension and diet-related cancers.

The 2015 PPAN report captures relevant events, milestones as well as challenges encountered by different organizations at the national and subnational levels, bringing to light how policies and programs are implemented by various partners.

Let good nutrition among Filipinos remain our top priority for we are investing in the most important asset of this country, and that is our citizens. Let us work together to achieve our common vision of **All for Health towards Health for All!**

Mabuhay!



Paulyn Jean B. Rosell-Ubial, MD, PH, CESO II
Secretary of Health

LIST OF ABBREVIATIONS

ANGELO	Analysis grid for elements linked to obesity
A.O.	Administrative Order
BFAD	Bureau of Food and Drugs
BMI	Body Mass Index
BSP	Bangko Sentral ng Piipinas
CNC	City Nutrition Committee
CSC	Civil Service Commission
DepEd	Department of Education
DOH	Department of Health
DPAS	Diet and physical activity strategy
E.O.	Executive Order
FDA	Food and Drug Administration
FNRI	Food and Nutrition Research Institute
IYCF	Infant and young child feeding
KAANIB	Kasama Ani sa Barangay
LGU	Local government unit
M.C.	Memorandum Circular
NCD	Non-communicable disease
NNC	National Nutrition Council
NNS	National Nutrition Survey
PDRI	Philippine Dietary Reference Intakes
PPAN	Philippine Plan of Action for Nutrition
R.A.	Republic Act
WC	Waist circumference
WHO	World Health Organization
WHR	Waist-to-hip ratio

FOREWORD

Data from the 2015 National Nutrition Survey (NNS) conducted by the Food and Nutrition Research Institute (FNRI) reveal that overweight/obesity among children (0-59 months) dropped to 3.9 percent from 5 percent in 2013. Lest we celebrate prematurely, the same survey finds an increase in stunting to 33.4 percent from 30.3 percent in 2013 for the same age group.

In a country where hunger experienced by many is considered a more pressing and urgent challenge than the growing waistlines and increasing roundness of the faces of some of its people, efforts against obesity can be likened to musical notes, sounds and melodies, which while individually pleasant to the ear, do not really come together into one symphony orchestra. Some instruments are missing, and still, until 2015, the obesity piece had been treated as a minor verse, unworthy of its own spotlight, which alone shone on the chorus of non-communicable diseases (NCDs).

Overweight and obesity rates among children and adults have been reported since 1989 through the NNS which is conducted every five years with an updating survey in-between. That there is a pattern of increasing overweight and obesity prevalence among children and adults could be observed earlier in the surveys, but has only recently become an important agenda of both national and multilateral health and development agencies present in the Philippines.

Like a seesaw ridden by the 'double burden of malnutrition' – undernutrition on one end, and overnutrition on the other – the government is trying to learn to strike a precarious balance so that both are given sufficient and effective attention and effort.

In June 2015, the World Health Organization-Western Pacific Regional Office in Manila hosted a workshop on the development of a multi-sectoral action plan for population-based prevention of childhood obesity. Present at the workshop were participants from government representing health, research, agriculture, education, social welfare, trade and industry agencies, local government units, and representatives from the academe and international development partners. Such action plan is to be incorporated into the Philippine Plan of Action for Nutrition (PPAN) 2017-2022, and also hopes to inform the Department of Health's (DOH) strategic action plan in addressing NCDs for 2016-2030 being prepared by the DOH. The two action plans are seen to provide the framework, including the targets, to the national action to address overweight and obesity – the conductor that will orchestrate national response to the growing and increasingly alarming overweight and obesity phenomena.

While there remain many areas surrounding the overweight and obesity phenomena in the Philippine context yet to be studied¹, health and research agencies in the Philippines subscribe to the WHO-prescribed, internationally-accepted and global research-based: a) measurements and cut-offs; b) knowledge on the causes of overweight and obesity among children and adults; as well as c) recommendations to prevent children and adults from being overweight/obese.

This report was developed to document overweight/obesity prevention and control interventions in different settings – community, workplace, school, etc. – highlighting those that demonstrate successful outcomes, including those whose outcomes have been shaped in part by their target population's response to measures aimed at the country's whole population.

These population-wide initiatives include IEC (information, education and communication) and social marketing campaigns promoting proper nutrition and anti-obesity or healthy lifestyle led by the DOH and NNC. These include promotion of Nutritional Guidelines for Filipinos through the "10 Kumainments" and Pinggang Pinoy; enactment of laws/orders further supporting promotion of exclusive breastfeeding, including regulation of marketing of breastmilk substitutes; national policy issued by the NNC Governing Board chaired by DOH requiring declaration of nutrition information, including the recommended energy and nutrient intake (RENI) values, in pre-packaged food products distributed in the Philippines; national policy by the Food and Drug Administration (FDA) encouraging food processors and manufacturers to voluntarily print the energy/caloric content of processed food products on the principal display panels; national policy issued by the Civil Service Commission (CSC) requiring all agencies to adopt "The Great Filipino Workout" as an integral part of the National Physical Fitness and Sports Development Program for government personnel; and the national policy by the Department of Education (DepEd) requiring public school canteens to sell only nutrient-rich foods and prohibiting the sale of carbonated drinks, sugar-based synthetic or artificially flavored juices and junk foods and any food product that may be detrimental to the child's health.

The initiatives/programs had reached the government's attention because of their popularity among various schemes that recognize good work in the area of health. The Outstanding Healthy Lifestyle Advocacy Awards handed out every two years beginning in 2009 by the Philippine Coalition for the Prevention and Control of Non-Communicable Diseases, as does the list of city/municipal government units, national government agencies, private organizations, business/commercial establishments and academic institutions that have implemented exemplary healthy lifestyle programs, had informed our selection of the case studies.

Aiming to bring to light reflections, lessons learned and best practices on addressing the challenge of rising overweight and obesity prevalence among Filipino children and adults, this document hopes to contribute to the as yet developing body of work on this other face of the malnutrition challenge.

¹In 2014, the Philippine Association for the Study of Overweight and Obesity, a group formed in 1994 composed mostly of medical practitioners with a mission to "pioneer in the prevention and control of obesity and its complications through education, research and advocacy," published a meta-study of researches on obesity among Filipinos published from 1981 to 2011. Aiming to provide a framework for recommendation for future research agenda, intervention programs and policymaking, the publication's final chapter contains a list of areas considered priority for further scientific investigation. Accessed through: http://obesity.org.ph/v4/wp-content/uploads/2013/08/Obesity_Research_Philippines_1981-2011.pdf on January 11, 2016.

INTRODUCTION

In 2012, more than half (67 percent) of total deaths in the country were caused by non-communicable diseases (NCDs) (Duante) – chronic medical conditions that are non-infectious nor transmissible – which include cardiovascular diseases (heart attack, stroke), cancers, chronic respiratory diseases (asthma, chronic obstructed pulmonary disease) and diabetes. Along with tobacco use and alcohol consumption, unhealthy diet and lack of physical activity – two pillars hoisting up overweight/obesity rates – constitute the risks on which many NCDs – particularly lifestyle-related diseases as the Department of Health has begun to call them – stand.

On its own, a raised body mass index (BMI) characteristic of an overweight/obese adult is a major risk factor for NCDs such as cardiovascular diseases, diabetes, musculoskeletal disorders (i.e. osteoarthritis) and some cancers (endometrial, breast, colon), while obesity in children is associated with a higher chance of obesity and disability in adulthood and premature death. Obese children also experience breathing difficulties, suffer psychological effects, and have increased risk of fractures, hypertension, early markers of cardiovascular disease, and insulin resistance. (who.int)

In 2013, the World Health Organization (WHO) estimated that 42 million children under the age of 5 were overweight or obese. While more than 1.9 billion adults (18 years and older) were overweight in 2014, 600 million of these were obese. Turning conventional expectations on its head, overweight and obesity are now found to be linked to more deaths worldwide than underweight, and are now on the rise in low- and middle-income countries, particularly in urban settings. (who.int)

The Philippines, classified by the WHO as a lower-middle income country, displays such phenomena. Despite an occasional rare fall in overweight/obesity figures for one survey period in certain (age) groups, overweight/obesity figures can be considered to have been consistently rising across age groups, including among lactating mothers.

.....

Measuring Overweight and Obesity

While it could be argued that a person's physical appearance is a matter of perception and personal taste, public health practitioners have long ago agreed on sets of measurements and cut-offs for overweight and obesity among children and adults.

Following the Child Growth Standards released by WHO in 2006, for children/adolescents, weight-for-length (0-48 mos.), weight-for-height (2-5 yrs.), and body mass index (BMI)-for-age (61 mos. – 19 yrs.) are used. (De Onis)

Condition	0-60 mos.	61 mos. – 19 yrs.
Possible risk of overweight	>1SD to 2SD	
Overweight	>2SD to 3SD	>1SD
Obese	>3SD	>2SD

For adults, weight-for-height (BMI) is used calculated using the formula: $BMI = W (kg)/H^2 (m^2)$. Health agencies in the Philippines also survey the population's waist circumference (WC) and waist-to-hip ratio (WHR) to measure abdominal adiposity – excessive accumulation of lipids (fats) in the abdomen – considered to be an independent risk factor for developing NCDs. (NNC)

BMI	Classification	Disease risk
18.5 – 24.9	Normal	Normal
25.0 – 29.9	Overweight	Increased
30.0 – 34.9	Obese Grade 1	High
35.0 – 39.9	Obese Grade 2	Very high
≥40.0	Obese Grade 3	Very high
WC		
Men	Women	
≥102 cm	≥88 cm	Increased
WHR		
Men	Women	
≥1.0	≥0.85	Increased

Trends in Overweight / Obesity Prevalence Among Different Groups in the Philippines



3 out of 10 Filipino Adults are Overweight / Obese

Who and where in the Philippines are they?

- ✓ Living in urban communities
- ✓ From affluent households
- ✓ Living in NCR, CAR, , CaLaBaZon, CARAGA, and Northern Mindanao regions (NNS 2013)



Existing research – mostly prevalence or cross-sectional studies that can only associate obesity with certain risk factors – in the Philippines provides clues as to the possible reasons for the increasing overweight/obesity levels in Filipino children and adults. (Florentino) These include low physical activity; increase consumption of carbohydrates and proteins and decrease consumption of vegetables in the diet; penchant for carbonated drinks among school children; improving socio-economic status of some households thereby increasing the ability to consume more processed and fast foods. (NNC) In a longitudinal study of reproductive women, improved socio-economic status was shown to be consistently associated with increasing prevalence of overweight and obesity throughout the 16-year study period. The prevalence of overweight and obesity was also directly associated with household income. (Florentino)

Each one of us is unique

While unhealthy diet and lack of physical activity may take the blame for increasing obesity prevalence among a population and therefore receive the most attention in public health intervention efforts, researchers agree that the cause of obesity in an individual is multifactorial and involves a complex interplay of behaviors, socio-cultural norms, environment, and even genetics. (Florentino)

In the Philippines, the FNRI has been exploring genomics in the etiology of overnutrition, starting off with a study involving the FTO (a fat mass and obesity-associated gene) rs9939609 variant, which has been linked to higher body weight and risk for obesity by some genome-wide association studies. Still in its infancy, nutrigenomics is seen to provide the missing piece to the current body of knowledge of what causes obesity in a people, or indeed, in a particular individual. (FNRI) Understanding variations between individuals/peoples in the way that they react to their environment will be key to developing future strategies to prevent obesity.

Long before global overweight/obesity figures have risen to their current alarming levels, WHO had developed in 2004 a Global Strategy on Diet, Physical Activity and Health which describes the actions needed to support healthy diets and regular physical activity. While to live or not a life characterized by healthy diets and regular physical activity looks to be a matter of personal choice of the individual, on deeper analysis, it can be found that an individual's personal choice is molded by what is made available and accessible by the different environments – policy, economic, physical, food, socio-cultural, information – that an individual lives within. These environments – described as obesogenic because of characteristics that make it easy for an individual to become obese – are exactly what population-based interventions can help make more favorable to the promotion of a healthy lifestyle among the public.

Changes in dietary and physical activity patterns are seen as the result of environmental and societal changes associated with development, and that is why the WHO Global Strategy on Diet, Physical Activity and Health calls upon all stakeholders – civil society organizations and non-government organizations, private sector, international partners, and governments including those from sectors such as health, agriculture, transport, urban planning, environment, food processing, distribution, marketing and education – to take action at global, regional and local levels to improve diets and physical activity patterns at the population level. ²(who.int)

WHO developed a framework in implementing and monitoring outcomes of a national Diet and Physical Activity Strategy (DPAS). (who.int) Guided by elements of the framework in describing anti-obesity programs and interventions, this report presents existing efforts in the different settings – community, workplace, school, etc. – as a microcosm of a national system and yet one that is affected/influenced by actions/decisions – e.g. national policies or lack thereof – beyond their control.

Calories in > Calories out = FAT

People get fat when they burn less calories/energy than they consume. Globally there is an increased intake of energy-dense foods – foods that have high calorie per gram – that are high in fat, and an increase in physical inactivity due to general changes in modern lifestyle.

To keep a lean, healthy body, individuals can limit energy intake from total fats and sugars and opt for low-calorie foods that are high in water, fiber and nutrients such as fruits (sweet yet low-calorie), vegetables (high in water and fiber, low-calorie), whole grains and products such as cereals, bread and pasta (high in fiber), lower-fat protein foods such as fish, poultry and leaner (fat contains more than twice as many calories per gram as do protein and carbohydrates!) cuts of meat. (shapeup.org)

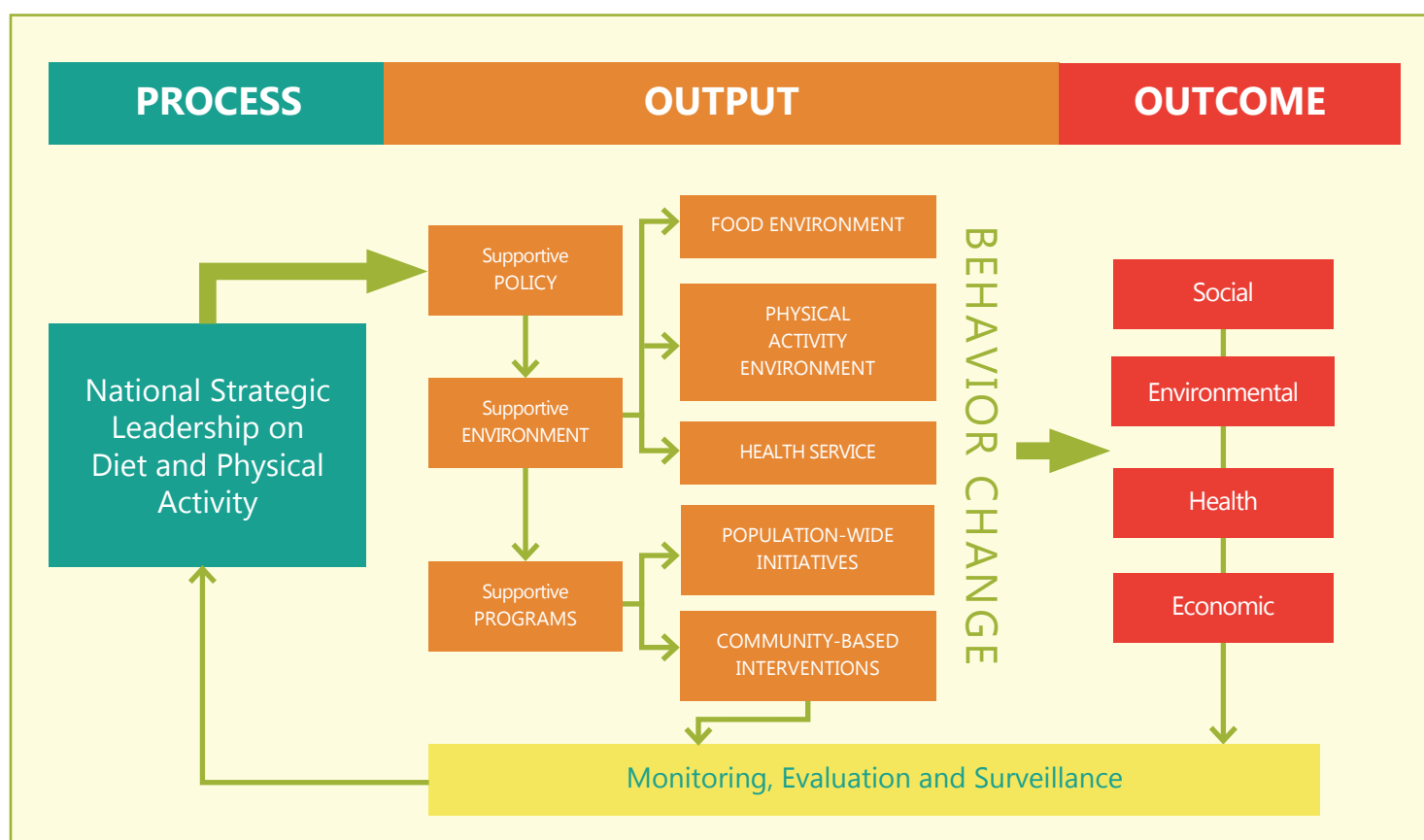
To expend the energy consumed, it is recommended that one must engage in regular physical activity for at least 150 minutes per week (60 minutes per day for children). (who.int)

²WHO developed a framework to assist Member States in monitoring and evaluating the implementation of Diet and Physical Activity Strategy (DPAS) at country level. The framework proposes that national governments demonstrate leadership and facilitate collaborative action in the implementation of policies and programmes to promote supportive environments for health. These actions are expected, in turn, to facilitate positive changes in diet and physical activity behaviors. Immediate short- and long-term health, social, environmental and economic outcomes should be measured regularly to assess change. Monitoring, evaluation and surveillance are core aspects of the implementation framework.

The model enables a comprehensive and systematic analysis of potential obesity prevention action areas in multiple sectors and settings and incorporates three public health promotion approaches for tackling the issue: "Upstream" or socioecological (policies that shape the economic, social and physical – both built and natural – environments, for example, policies that influence food and physical activity environments, and those that influence underlying determinants of health in society), "Midstream" or behavioural (approach targeted at a specific setting: community, school, household, church, etc.) and "Downstream" for health services (clinical intervention). Areas to look into include the following:

Policy : Standards and Guidelines (National dietary guidelines; food selection guides; policies related to breastfeeding and nutrition); policies on land-use, agriculture, food manufacturing and distribution, food marketing, food retail and food service, etc.

Diet, Physical Activity Strategy Implementation Framework at Country Level



Food environment : Aspects of food system – agriculture, food processing, food distribution, marketing and communication, retail, food service sectors; school food environment; food taxation and systems; etc.

Physical activity environment : infrastructure; transport (active transport and public transport); education sector (school-based physical activities); sports (recreational activity and inclusivity); urban planning (built environment)

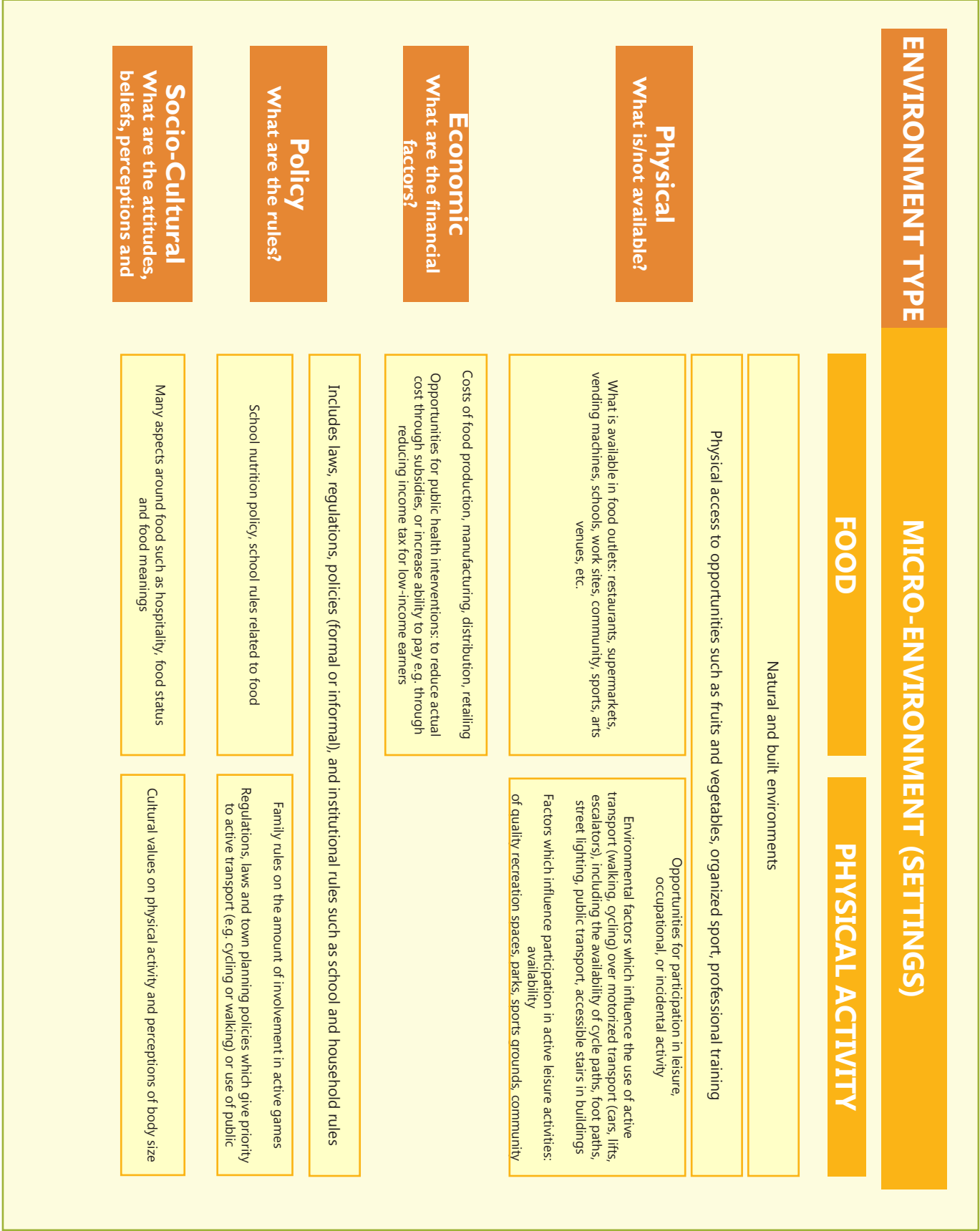
Health service : support to health services and medical (clinical interventions)

Population-wide initiatives : Marketing of (un)healthy foods and beverages to children; nutrition labeling; food taxes and subsidies; fruit and vegetable initiatives; physical activity policies; social marketing campaigns

Community-based interventions : Early childcare settings; primary and secondary schools; primary healthcare setting; religious settings; sporting centers; community settings; workplace settings

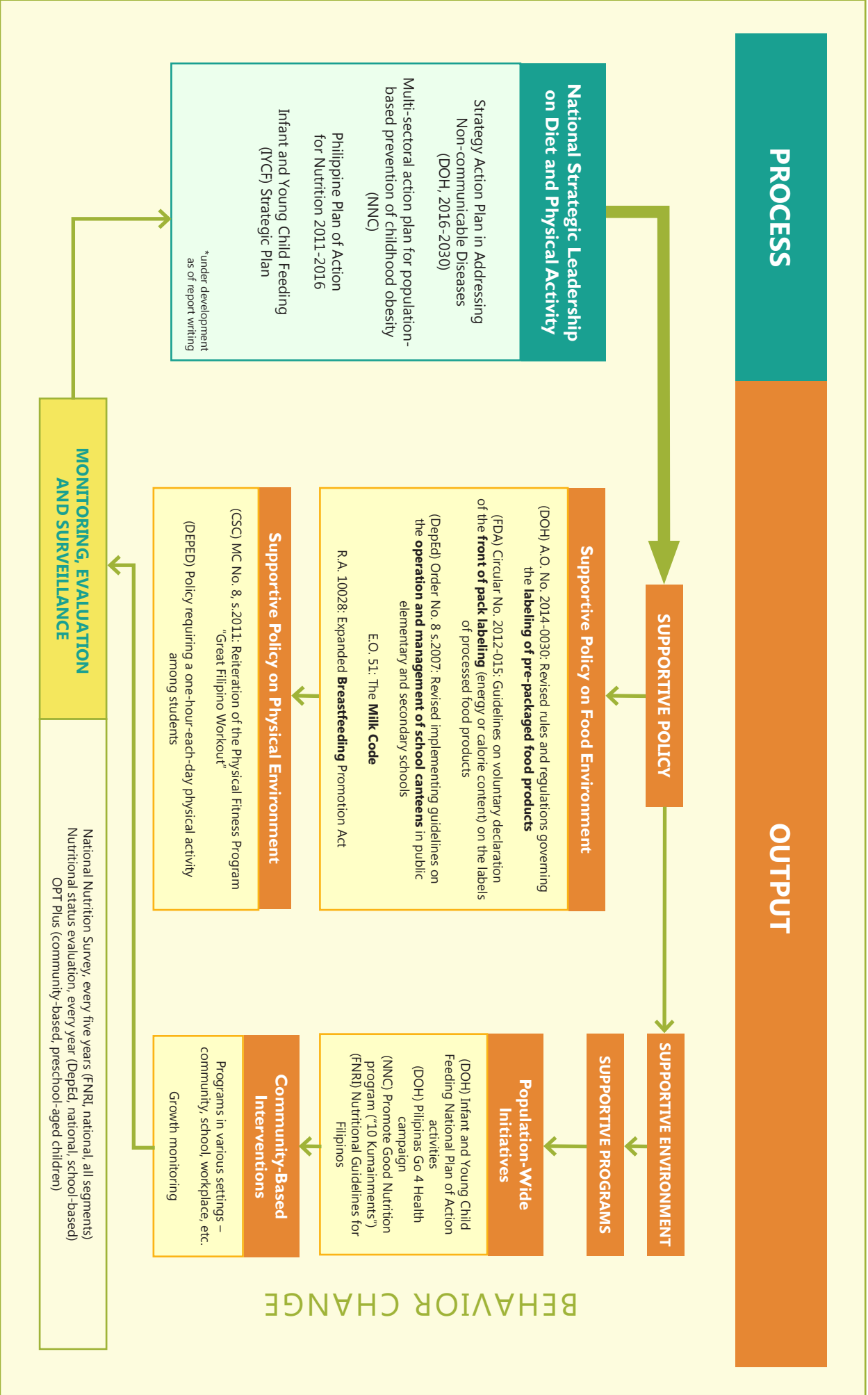
In addition to the DPAS, the Analysis Grid for Elements Linked to Obesity (ANGELO) proved to be a helpful practical tool in scanning the environment for potential environmental barriers to healthy eating and physical

The following pages show how the City of Mandaluyong in the National Capital Region attacked the challenge of rising obesity among their children by educating their mothers on proper nutrition; the efforts of a private school in Bulacan on leading young people along the track of holistic development; the Department of Health’s Belly Gud initiative which had started as a project within DOH and which has since been adopted by other offices both government and private; the Bangko Sentral ng Pilipinas’ ‘complete’ weight management program for its employees; and the steps that the city of Balanga’s Health Office takes towards extending and enriching both the length and quality of lives of the city’s people.



THE PHILIPPINES' FIGHT AGAINST OVERWEIGHT/OBESITY: A **SNAPSHOT**

Before going into the case studies, here is a look at the elements of the framework on which the country could be said to have some action/items in place.



CASE STUDIES



OW-OBESE PO

Overweight and Obesity Elimination thru Nutrition Education Program

MANDALUYONG CITY

From data gathered during the annual Operation Timbang conducted among school children, members of the Mandaluyong City Nutrition Committee (CNC) had noted that some – 0.68 percent in 2010, 0.46 percent in 2011, and 0.60 in 2012 – of their preschool children were overweight. Those figures were enough to spur the CNC to action. Mandaluyong City, after all, is not considered the “Most Child-Friendly City” in the country – a Presidential Award it received after besting the country’s other highly-urbanized cities, in 2011 – for nothing. (Note: In February 2016, Mandaluyong City won the regional prize anew, making it a contender in the national awards for Most Child-Friendly City under the highly-urbanized city category.)

And to get to the children the CNC had to go through the mothers.

After conducting informal surveys through conversations with mothers going to the health centers for one reason or another, they found out that many of their children were not being fed properly: they were fed whatever was quick and convenient to prepare without consideration of the food’s nutritional value and without knowledge of their child’s nutritional requirements.

These findings informed the design of the Overweight and Obesity Elimination thru Sustainable Nutrition Education Program (OW-OBESE PO), which focused heavily on nutrition education activities such as sessions on the consequences of overweight and obesity and importance of proper diet and exercise, nutrition classes and diet counseling, promotion of proper infant and young child feeding practices (integrated through the City’s IYCF – Infant and Young Child Feeding – program) and even cooking demonstrations of nutritious meals. Complementing the activities surrounding ‘food’ was a physical activity program – a kiddie calisthenics – led by the City’s Daycare Service.



You are your Mother's Daughter

..or son whatever the case may be.

Parents generally are an influence to the track their children's lives take, and this influence, especially of the mother, is found including in obesity.

Typically the Filipino family's cook and meal planner, mothers play an influential role in the family's diet, and their perception of what is considered healthy, including their food preferences, reflects on their children's body weights. (Florentino)

But the impact of the mother's TLC – tender loving care – seems to be the result of processes which begin when the child is in the womb (includes those conditions that 'program' long-term regulation of energy balance during prenatal life) up to the time the baby is born and fed, according to international studies. Weight gain during pregnancy, poor pregnancy nutrition and inadequate prenatal care resulting in low birth-weight in the child, gestational diabetes, non-breastfeeding, maternal overweight/obesity, and a child's improper growth patterns

(i.e. growth failure early in life followed by rapid weight gain in childhood) are all positively correlated with obesity in childhood and adulthood. (NNC/Florentino/Socha/Hollis)

The impact of maternal and early child nutrition on risk of later obesity is increasingly looked into, in particular, as an area that could offer explanation for the phenomenon of increasing obesity rates in developing countries which are still plagued by the challenge of undernutrition.

Studies from developing countries support the finding from developed countries that low birthweight is associated with lower BMI, but subjects with lower birthweight tend to have lower lean body mass and higher body fat mass, which is a direct risk factor for cardiovascular and other chronic diseases. (Yang)

Some studies have shown that food and flavor preference of a child may be influenced by flavor exposure during the prenatal period. Epidemiological studies in Europe revealed some associations between breastfeeding practices and dietary habits at a later age: exclusive breastfeeding for at least three months is associated with a higher consumption of vegetables at 4 years; breastfeeding duration is positively associated to: variety of food choices by 2- to 3-year old children, to healthy eating habits at 2 years, to food variety at 2 years, to fruit consumption at 6-8 years, and to healthy eating patterns at 2-8 years; while a longer breastfeeding duration was consistently related to higher fruit and vegetable intake in 2- to 4-year old children. (Issanchou)

Sundin ang 10 Kumainments para sa sigla at lakas ng buhay!

The National Nutrition Council (NNC) developed the "10 KUMAINMENTS" to popularize the Nutritional Guidelines for Filipinos developed by an inter-agency Technical Working Group led by the Food and Nutrition Research Institute of the Department of Science and Technology (FNRI-DOST) and approved by the National Nutrition Council Governing Board in October 2012.

The "10 KUMAINMENTS" are simple and easy to remember guidelines to help improve the nutritional status of Filipinos to be able to live healthier and more productive lives.

The "10 KUMAINMENTS" aim to improve the eating habits and behaviors of Filipinos to prevent malnutrition and diet-related non-communicable diseases such as cancer, diabetes, and cardiovascular diseases.



I. Kumain ng iba't-ibang pagkain.

II. Sa unang 6 months ni baby, breastfeeding lamang; mula 6 months, bigyan din siya ng ibang angkop na pagkain.

III. Kumain ng gulay at prutas araw-araw.

IV. Kumain ng lida, karne, at ibang pagkain may protina.

V. Uminom ng gatas; kumain ng pagkain mayaman sa calcium.

VI. Tryaking malinis at ligtas ang ating pagkain at tubig.

VII. Gumamit ng iodized salt.

VIII. Hinay-hinay sa maalat, mamantika at matatamis.

IX. Pangatilihin ang tamang timbang.

X. Maging aktibo. Iwasan ang alak, hurapang manginig, etc.

1. Kumain ng iba't-ibang pagkain.

2. Sa unang 6 months ni baby, breastfeeding lamang; mula 6 months, bigyan din siya ng ibang angkop na pagkain.

3. Kumain ng gulay at prutas araw-araw.

4. Kumain ng lida, karne, at ibang pagkain may protina.

5. Kumain ng lida, karne, at ibang pagkain may protina.

10
KUMAINMENTS
Sigla at lakas ng buhay

6. Uminom ng gatas; kumain ng pagkain mayaman sa calcium.

7. Gumamit ng iodized salt.

8. Limit intake of salty, fried, fatty and sugar-rich foods to prevent cardiovascular diseases.

9. Pangatilihin ang tamang timbang.

10. Maging aktibo. Iwasan ang alak, hurapang manginig, etc.

2012 Nutritional Guidelines for Filipinos*

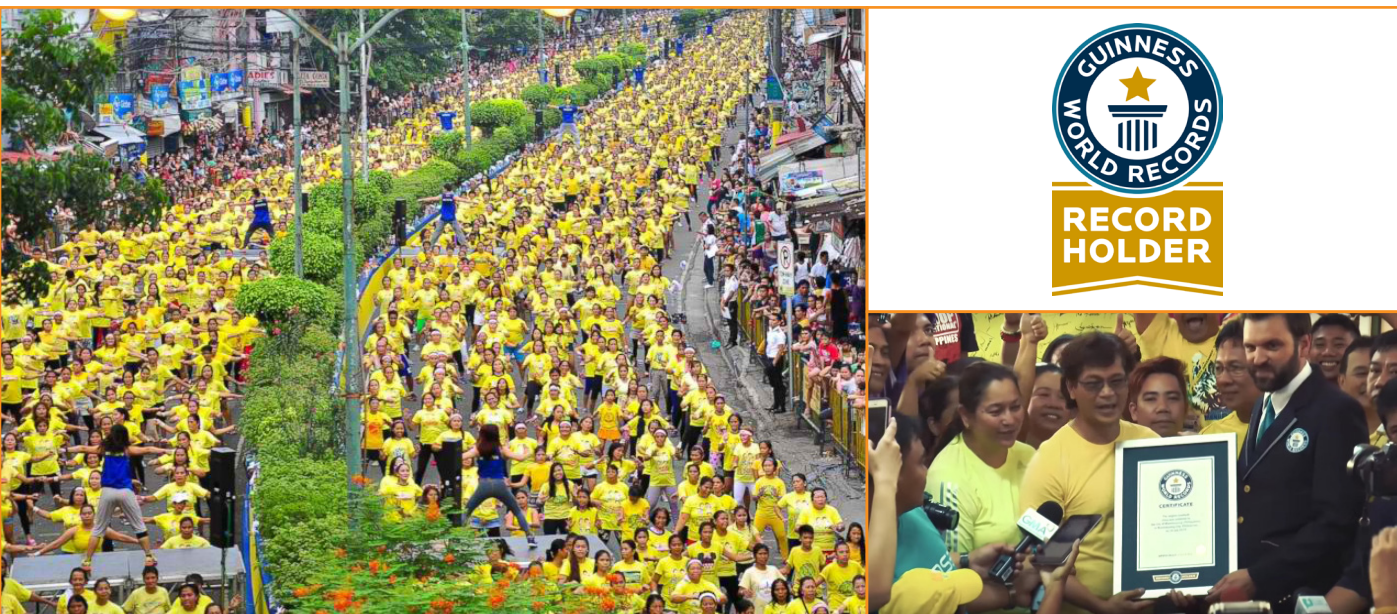
*Developed by the Technical Working Group led by the Food and Nutrition Research Institute of the Department of Science and Technology (FNRI-DOST).

For information, comments, and suggestions:
National Nutrition Council
2002 Orion Avenue Extension, Tagay City
Telephone: (02) 8636102 Fax: (02) 863-8818
Email: nncc@nncc.gov.ph
FB: nnccofficial Twitter: @nncc_official

Wastong Nutrifon:
Nasim, Lungsod ng Marikina

The nutrition education sessions are based on the 10 Kumainments, popularized version of Nutritional Guidelines for Filipinos developed by Technical Working Group led by NNC

This program favored a targeted approach: while it was designed for every child – overweight or not – those that had been identified as overweight/obese received home visits from members of the CNC. Growth of all participating children was monitored through a monthly weigh-in at the health center, and after a year, at the end of the program, the child who had lost the most weight among those identified to be overweight/obese, received a Biggest Loser incentive package.



Screen capture from guinnessworldrecords.com

City-led regular physical activities, particularly Zumba, for the city's adult population began in 2014. And in July 2015, Mandaluyong City made a world record in hosting the world's largest Zumba class ever attempted with nearly 13,000 participants, as adjudicated by the Guinness World Records.

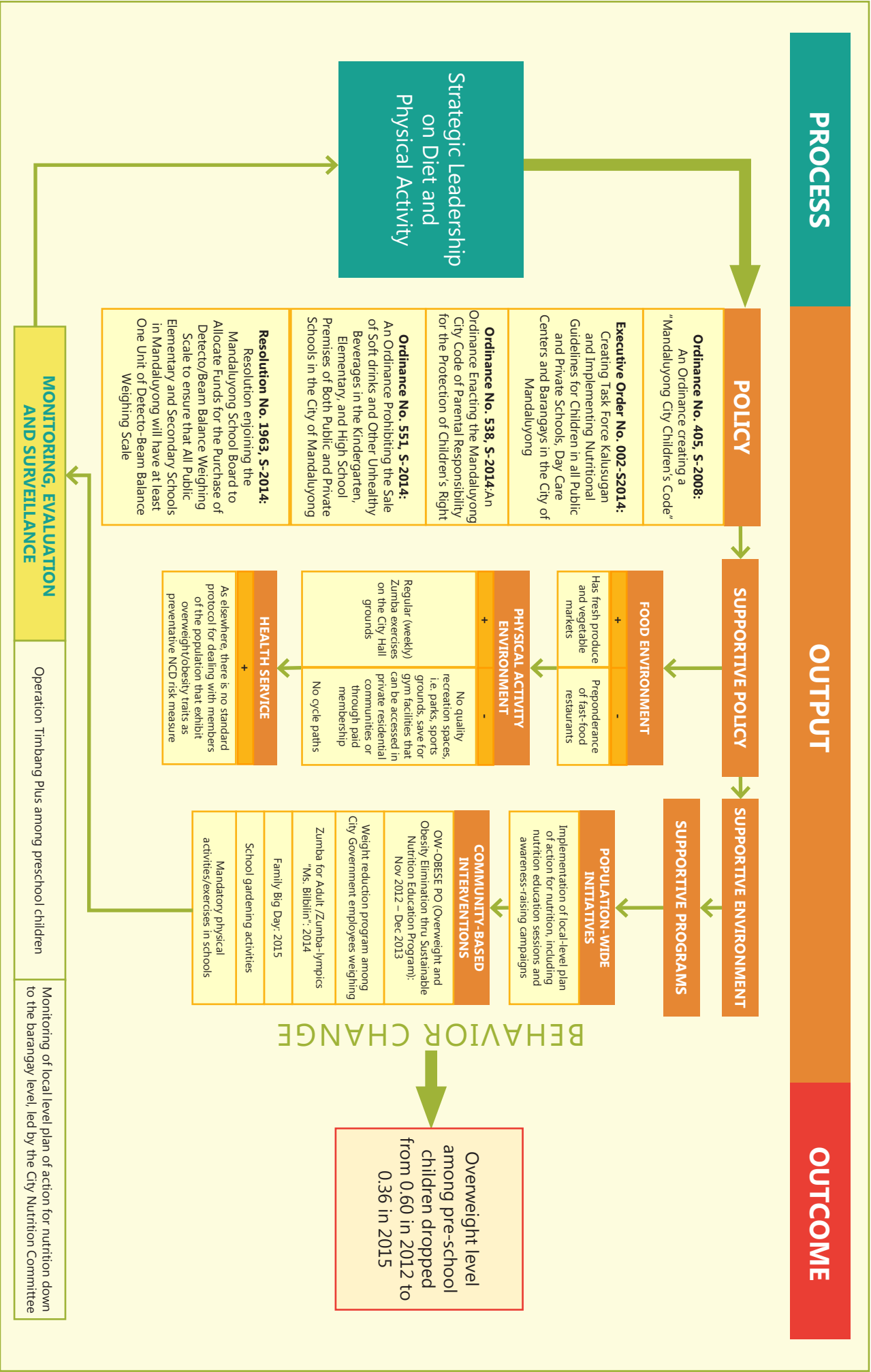
In 2015, the City's preschool-aged-focused anti-obesity program expanded focus to include the child's entire family. Habits, after all, begin at home, and all members of the family – not only the mother – should be equally invested in maintaining or achieving good health for everybody.

The one-off Family Big Day event featured a nutrition information session, provision of health services, and other fun activities that the whole family enjoyed participating in.

Insider's Tip!

Teresa delos Reyes, Mandaluyong City's Nutrition Program Coordinator, attributes the success of the city's healthy lifestyle programs to strong leadership and a committed nutrition team. That their programs show results is due to regular and consistent monitoring by a comprehensive – from city down to barangay levels – network of nutrition workers. Unlike in other LGUs, their barangay nutrition scholars are on the city's payroll and get monetary compensation and incentives from their respective barangays, turning them into the motivated workforce that the city needs. And it shows on their work which even the NNC has recognized: in terms of local level nutrition action plan implementation, Mandaluyong City was a "CROWN" Awardee in 2012 and is vying for the "Nutrition Honor" Award.

DIET, PHYSICAL ACTIVITY STRATEGY – MANDALUYONG CITY





HEALTHY LIFESTYLE PROGRAM

SOPHIA SCHOOL

A co-educational institution housing more than 300 students at the pre-school up to high school levels, the Sophia School in Meycauayan City, Bulacan has espoused “holistic development”³ for children since it was founded in 1995 by the husband-wife team of psychologist-teacher Lorenzo and nutritionist/dietitian-teacher Marie Ann Abacan.

“Children should realize the value of health at a young age as well as the preventive, rather than the curative, approach to addressing health issues,” Teacher Marie Ann says.

Since its founding, the Sophia School has made healthy living a pillar to nurturing well-rounded individuals. Eating healthy, particularly of fruits and vegetables, some of which are sourced from the school’s garden tended to by Sophia’s own students, have been mainstreamed and so integrated into the students’ day-to-day living that eating palitaw or tofu chips at recess, or, drinking fresh watermelon shake with beets, is no longer a novelty. The students are as well made physically active through play time for the younger kids and dance and fitness exercise activities for the older ones.

But despite healthy living having been mainstreamed, Sophia School’s lead educators remain steadfast in their monitoring and evaluation of the programs, as well as in thinking up and creating new ones to keep up with the times. Among the many findings revealed by the latest survey done in December 2012 among students, perhaps the most encouraging, and telling of the influence that the school wields on young people, is that **nearly 98 percent of the students claimed to have developed the habit of eating green leafy vegetables as a consequence of the school’s program.**

³ Holistic development is a process of self-actualization and learning that combines an individual’s mental, physical, social, emotional and spiritual growth. (worldreference.com)

Ms. Abacan is herself convinced of the vital role the school plays in inculcating healthy habits early in a person's life. In the process of turning that conviction into something practical, she and her husband had to overcome challenges, primarily relating to changing knowledge, perceptions, attitudes, and ultimately, behavior, of school staff members, parents, and the students.

She cites "ignorance" of proper nutrition as one culprit to malnutrition, along with challenges posed by insufficient time and money for healthy food preparation on the part of parents, and the influence the environment (e.g. advertisements) has on the children's perception.

But exposed to the proper environment like what Sophia School provides its students, young people –Ms. Abacan has observed from her over two decades of experience – if given the chance, would also actively participate in initiatives promoting healthy living.

Molding and Influencing Young Minds

Recognizing the many opportunities that schools have to conduct health promotion especially among students who spend a huge amount of their daily life at school, the WHO, in 1995, launched the Global School Health Initiative, most visible through its efforts to promote Health Promoting Schools – schools that constantly strengthen their capacity as a healthy setting for living, learning and working for teachers, students and community members. (www.who.int)

In the Philippines, efforts to promote healthy eating and physical activity among students of public schools are guided by the Department of Education's Order detailing the implementing guidelines on the operation and management of school canteens in elementary and secondary schools, and a policy requiring all public schools to allot at least one hour each day for physical activity (under development as of this writing). But while carbonated drinks (i.e. sodas) are explicitly prohibited and so are sugar-based synthetic or artificially flavored juices, "vitamin-fortified" artificial juices manage to acquire BFAD approval and so are legitimately available in school canteens.

Controlling the food that is available to students appears to be the commonsensical thing to do. In various studies, researchers have concluded that the availability and accessibility of unhealthy foods (i.e., sugar-sweetened drinks; low nutrient energy dense snacks) from school canteens and vending machines lead to a higher consumption of unhealthy foods, a lower intake of fruit, vegetables and milk products, and greater odds of obesity. (Van Lippevelde)

If given a chance, children seem to prefer to take these sugar-sweetened beverages and low nutrient energydense snacks. And this has largely been attributed as an effect of mass media, including advertising.

An increased risk of overweight and obesity is one of the best documented impact of mass media on children's health. Many studies have shown a positive correlation between time spent by children watching television, BMI increase and unhealthy nutritional behavior. One such study suggested that children who saw a videotape with embedded food commercials were significantly more likely to select the advertised food product than children who had not seen the commercials. Data from Europe and the United States have shown that advertisers are targeting children in an effort to establish "brand-name preference" at as early an age as possible. Advertising clearly influences the short-term consumption of children aged 2 to 11, and there is moderate evidence that advertising influences the regular diet of children 2 to 5 years, and also seems to influence older children 6 to 11. Other studies convincingly showed that exposure to advertising is associated with adiposity from childhood (2 to 11 to teenage (12 to 18)). (Mazur)

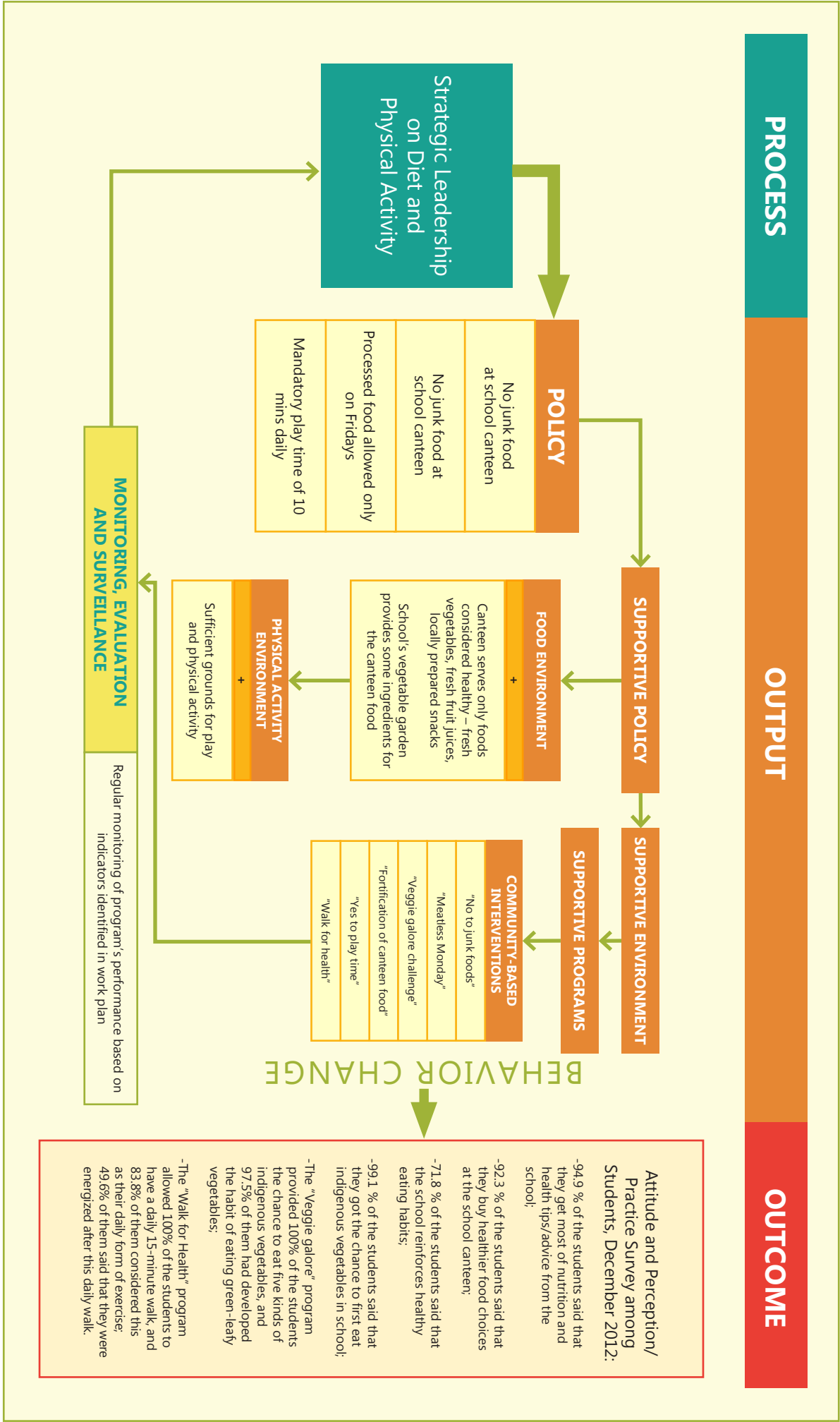
In the Philippines, there have been reports that the Department of Finance would put forward a proposal to slap higher taxes on sugar-sweetened beverages such as soft drinks, fruit drinks, sports drinks, sweetened tea and coffee drinks, energy drinks and all other non-alcoholic beverages in both ready-to-drink and powder form, in a move that can potentially discourage consumption of unhealthy drinks among Filipinos. (www.inquirer.net).

On the other hand, a law regulating advertising to children is yet to be passed amidst advocacy efforts by health advocates and health-related agencies.

Clockwise: Students drinking "green smoothie" made from soy milk, bananas and fresh vegetables like saluyot, pechay, kangkong or camote tops; students in the vegetable garden planted with malunggay, oregano and kangkong; children during their play time; students eating their lunch on a "Meatless Monday" made of veggie menudo, red rice, clear soup and fresh watermelon juice. Photos courtesy of the Sophia School



DIET, PHYSICAL ACTIVITY STRATEGY – SOPHIA SCHOOL





BELLY GUD FOR HEALTH

DEPARTMENT OF HEALTH – CENTRAL OFFICE

As the lead agency tasked to promote healthy lifestyle among the Filipino public, the Department of Health, in particular, its Degenerative Diseases Office-Lifestyle-related Diseases sub-unit thought that they had to walk the talk – in a manner of speaking – of healthy living.

The idea was to design a “light, fun and enjoyable challenge” for the DOH-Central Office’s busy employees to attain and maintain a desirable waist circumference (<90 cm for males and < 80 cm for females), an indicator of a person’s level of risk for non-communicable diseases.

Belly Gud for Health used a mix of nutrition education and physical activities such as dance, tai-chi, yoga, walking, jogging, gym workout, and incentives (cash prizes) to kick start the employees into finally shedding those extra waist centimeters. That format, with variations in target population, ran from 2012 till 2014, until the ‘challenge’ component was done away with in 2015 and was replaced with a one-day “Health Services Package” event which made available various medical and consultation services – body measurements, fat analysis, blood glucose and cholesterol screening, blood pressure reading, bone scanning, nutrition/diet counseling, figure consultation, therapeutic massage – as well as entertainment activities – film showing, aero mash-up – to everybody for a day.

A physically active individual is someone who engages in three or more days of vigorous-intensity activity of at least 20 minutes per day, or, in five or more days of moderate-intensity activity or walking of at least 30 minutes per day. (WHO)

By this definition, over 45 percent of Filipino adults aged 20 and above are insufficiently physically active in 2013. (Duante)

According to ecological models of health behavior, higher levels of physical activity are expected when environments and policies support physical activity, when social norms and social support for engagement in physical activity are strong and when individuals are motivated and educated to be physically active. (D’Haese, Cardon, Deforche)

Regular encouragement to and monitoring of the participants' progress resulted in these final outcomes for each year: 53.5% of participants (416/779) had a normal waist circumference in 2012; 55.28% (575/1,040) in June 2014; and 58% (370/638) in November 2014.

Insider's Tip!

Rose Holandes, the brains behind Belly Gud, says that based on the outcomes (final weights of the participants) and level of participation, Belly Gud has been a successful program. The challenges, however, came from two fronts: the labor-intensiveness of the program (personnel had to take the measurements of each DOH employee!), and the difficulty to sustain interest and participation especially in a very busy workplace setting like the DOH. "Behavior is very difficult to change," she says.

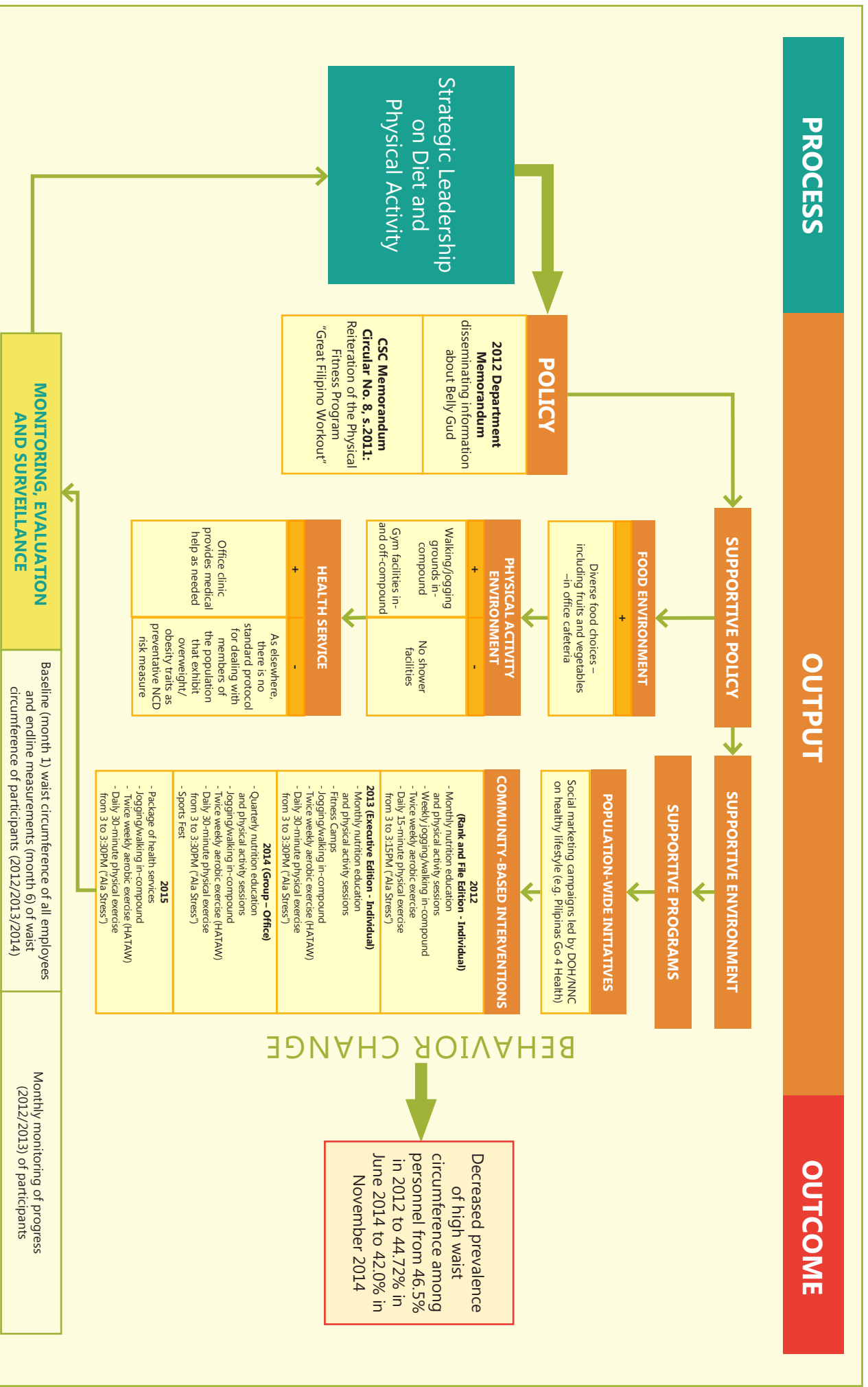
Seeing as the project worked among DOH employees, in 2014 the DOH began to spread the Belly Gud for Health model among other government as well as private offices. Some of the offices that took up the Belly Gud for Health initiative include the Department of Energy, Department of Labor and Employment, Philippine Information Agency, Metro Manila Development Authority, Presidential Management Staff, and Social Security System. While there is no monitoring of whether Belly Gud activities have been kept up by these offices, there is news that the SSS is in the process of rolling out the program in its regional offices after piloting it in the central office.

Dr. Mela Granada Belly Gud Grand Champion, 2013

Six months of eating nearly just cereals and vegetables, and increasing her physical movements, for example, by opting to walk the 2 kms. from office to her home and finally dusting off and putting to use those old Jane Fonda DVDs, all had paid off for Doc Mela. She was the biggest loser at the DOH's Belly Gud- Executive edition, lost 16 kgs. but gained 10,000 pesos in cash incentive.

The cash incentive, she says, was her primary motivation especially since efforts to eat healthy came at a price: vegetables and healthier options, for example, of bread are always more expensive than regular ones. Two years after she'd won, she struggles to keep her weight down. While she'd like to walk again from office to home, she said that fear of catching a disease from Manila's polluted air stops her from doing so.

DIET, PHYSICAL ACTIVITY STRATEGY DEPARTMENT OF HEALTH CENTRAL OFFICE





WEIGHT MANAGEMENT PROGRAM

BANGKO SENTRAL NG PILIPINAS

For anyone looking for a model in anti-overweight/obesity program design and implementation, the Bangko Sentral ng Pilipinas' (BSP) Weight Management Program is a star. Beginning with health data of BSP's over 5,000 employees painstakingly and carefully collected and assembled from 2008, the Health Services Office (HSO) designed a wholistic program covering all so-far known elements of overweight/obesity following a conceptual framework from a socio-ecological approach to behavior change, and resulting in well-documented overall positive health outcomes for the BSP population.

"It all starts with the data," says Dr. Arlene Ong, BSP's resident epidemiologist and one of the pioneers of BSP's Healthy Lifestyle Program. Beginning in 2008, the HSO regularly conducts an organization-wide health census every three years. Apart from that, employees' health data are also sourced from BSP's pharmacy and medical claims sections from records showing employees' drugs use and health services seeking behavior. All these data were assembled and inputted into and now could be accessed from the BSP's information system – the company's own electronic infrastructure which stored data to provide a sound basis for any program work.

Using Asian cut-offs for body mass index (BMI), data showed that in 2008, overweight/obesity prevalence among BSP employees was at 65 percent (41 percent using Euroid cut-offs). With such a high overweight/obesity level, it came as no surprise that related diseases were at similarly high levels: hypertension and diabetes incidence were at 30.6 and 31 percent, respectively, while mortality rate from cardiovascular disease was at 31 percent.

Obesity, defined as a condition in which there is an excess of body fat, is operationally defined (as is overweight) based on body size – body mass index (BMI) – which is closely correlated with body fatness. Arbitrarily set along a continuum of increasing risk with increasing BMI, cut-off points have, since 1998, been based on an international standard method for measurement of body fat recommended by the World Health Organisation.

However, these standards based on Europids (Caucasian race) have since been recognized as not indicating morbidities in certain ethnic groups including in the Asia Pacific region. Studies have shown that in some Asian populations, morbidity and mortality is occurring in people with lower BMIs and smaller waist circumferences. (Bassett)

For example, a group of researchers in an attempt to offer an Asia-Pacific perspective to the subject of obesity has proposed this classification of weight by BMI in adult Asians, with a caveat that these provisional recommendations will need to be revised in light of further validation of studies and clinical experience: (Bassett)

Classification	BMI (kg/m ²)	Risk of co-morbidities
Underweight	<18.5	Low (but increased risk of other clinical problems)
Normal range	18.5 – 22.9	Average
Overweight	≥23	
At risk	23 – 24.9	Increased
Obese I	25 – 29.9	Moderate
Obese II	≥30	Severe

Armed with reliable data that provided solid evidence as to the seriousness of the challenge, the HSO began 'marketing' the idea of a wholistic Healthy Lifestyle Program, first, to management, and then to the wider BSP employee population. To strengthen the message that investing on human resource pays off – literally – the HSO added Return of Investment (ROI) as a fourth level of impact that they intend to measure. As of this writing, data for this impact level are being collected.

After developing their own conceptual framework using a socio-ecological model to behavior change, the HSO designed a program addressing the underlying condition from which many other health challenges arose: the condition of being overweight or obese.

According to Dr. Susan Sison, Director at HSO, approaching the health challenge by attacking the root cause was a reflection of the direction that management had just by then begun to adopt: to veer away from an almost always reactive approach and take on a preventative stance in dealing with health problems.

At the core of the strategy was the **mission to empower employees with the right information and knowledge as well as to enable them to follow-through with prescribed** behavior by providing them with the right environment, tools and options. **Kapihan sa Medical**, a regular information dissemination avenue that has been running for 12 years, provided a platform for spreading proper knowledge about weight management. Through partnership with the Human Resource Management department, BSP's food facility and fitness center all became enablers of positive health behavior among employees. As stipulated in their contract, BSP's canteen concessionaire is required to provide "healthy options" in their offerings. Point-of-purchase information detailing amount of calories and recommendations based on one's condition are also found on food labels. At the fitness center, services of a personal trainer can be availed free of charge, as well as the use of many different sports facilities including a running track on the BSP building rooftop. Reinforcing and renewing messages on healthy lifestyle and weight management are various programs and regular activities: Step-Up (encourages employees to use the stairs and to brisk walk), **HSO Run (Walk) the Talk** (modeling positive health behavior demonstrated by HSO staff members), Sports Fest (basketball, volleyball, bowling, badminton, chess), **Wellness Festivals, Total Diabetes Control** (management of diabetes through education, regular risk assessment and monitoring, dental health watch), and, **Break-free Stop Smoking Support** (promoting a 100 percent smoke-free BSP).

In addition to the group programs, a targeted unique plan (including a tailored diet plan prepared by the HSO's nutritionist) is proactively offered to any individual who is found to be overweight or obese.

Monitoring of the various programs and activities showed the following results: (1) 30-percent increase in healthy meals consumption; (2) an increase in membership in sports clubs and creation of new ones, increasing the total number of clubs to 13; (3) an increase in the utilization of the Fitness Center by 18 percent; (4) an increase in the use of stairs by 24 percent; (5) an increase in Fun Run participants by 12 percent; and (6) a change in health seeking behavior among employees: an increase to more than 95 percent among those undergoing the annual medical exam from 86 percent in 2011.

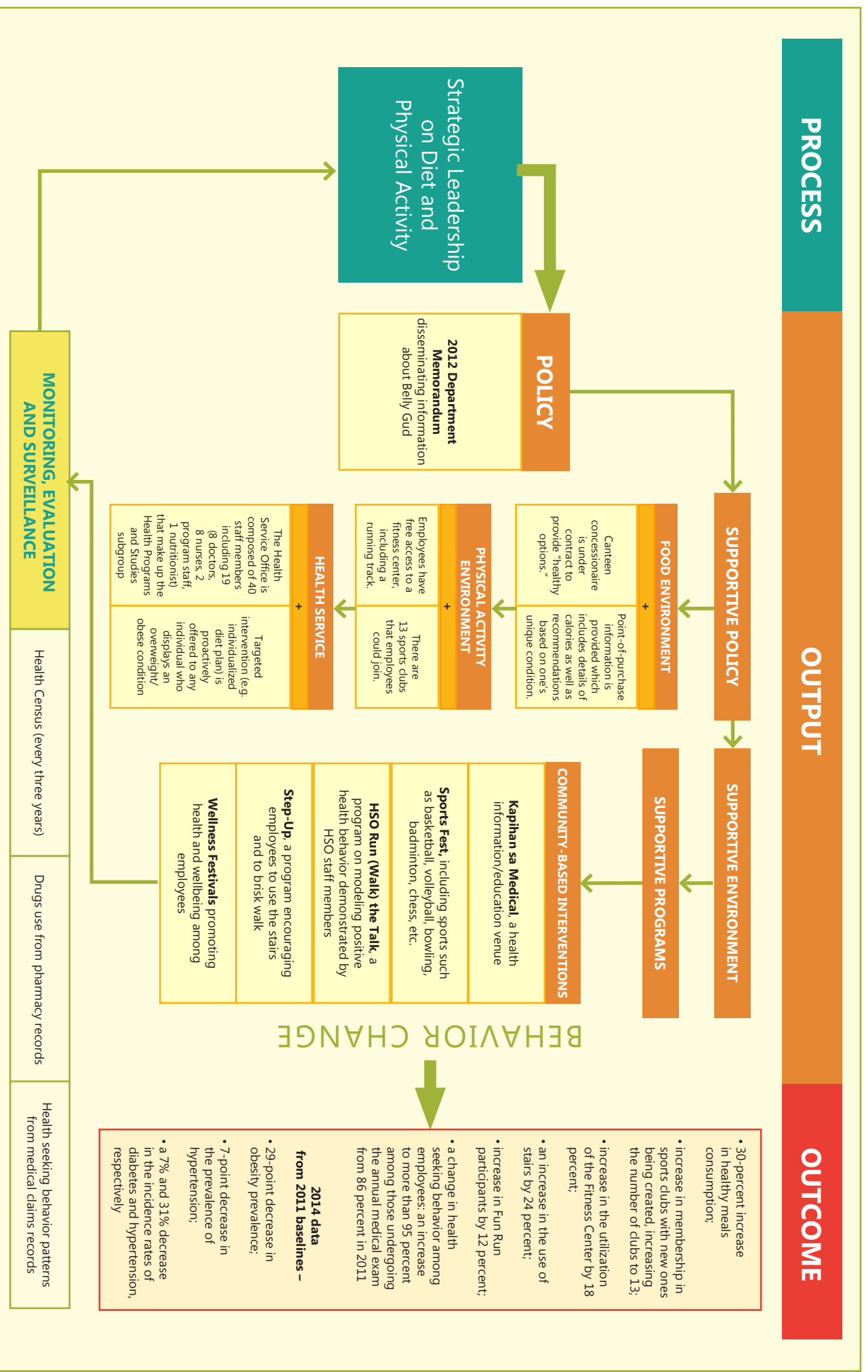
As to the ultimate health outcomes of the BSP's Healthy Lifestyle Program, the health census in 2014 revealed these comparisons of results from the previous health census performed in 2011: (1) 29-point decrease in obesity prevalence; (2) a 7-point decrease in the prevalence of hypertension; (3) a 7% and 31% decrease in the incidence rates of diabetes and hypertension, respectively.

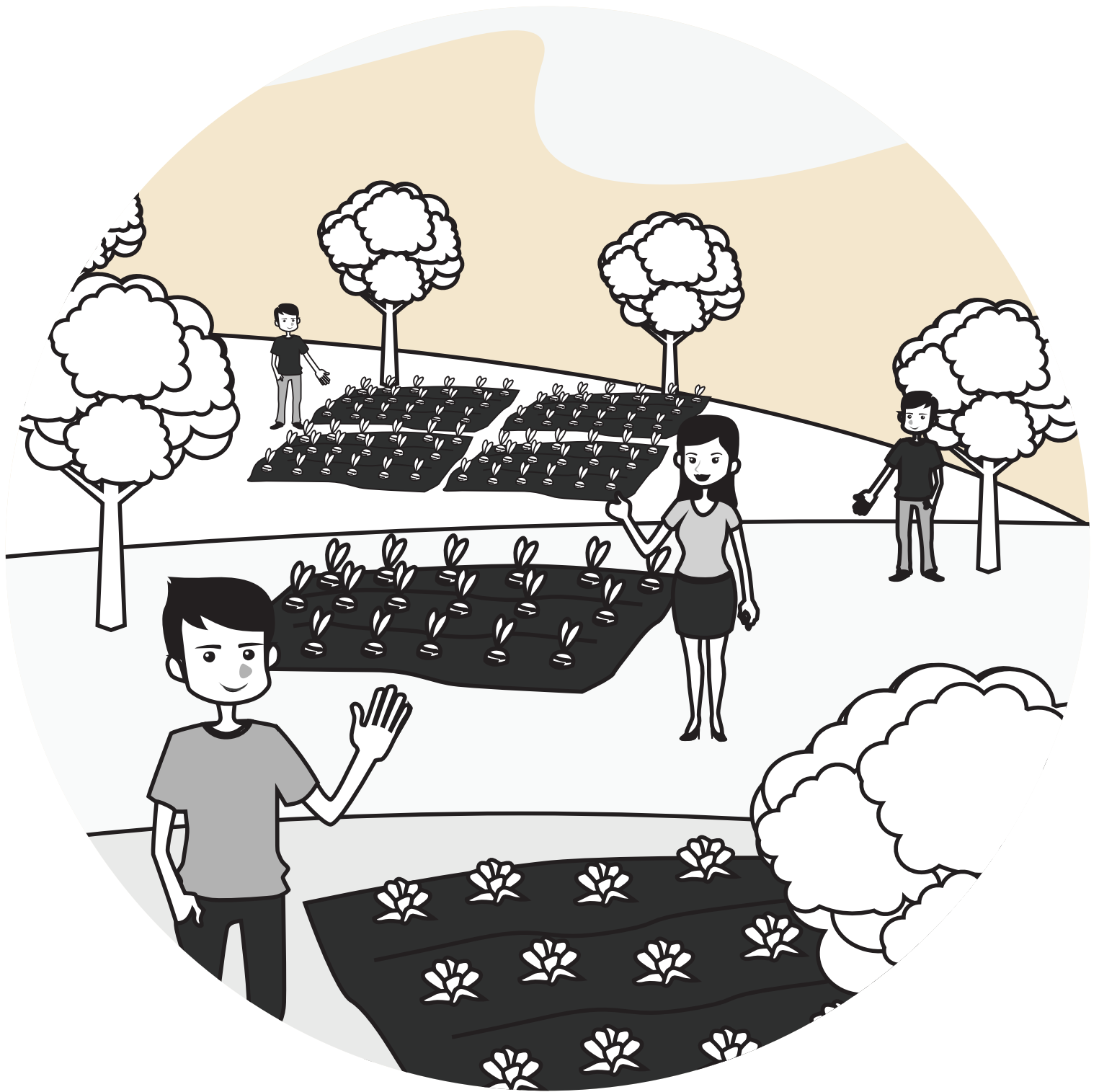
Insider's Tip!

Asked about their Key Lessons and Reflections on designing and implementing BSP's Healthy Lifestyle Program, some of the key members of the 19-man Health Programs and Studies subgroup of the Health Services Office had this to say –

- (1) Forging partnerships with various offices as well as external partners was very important, especially in the beginning when resources were scarce pending management support. Creativity and resourcefulness are two traits that program designers and implementers must display.
- (2) It is very important to build confidence among the target population. You get their buy-in by showing commitment and evidence that the program works and can deliver results.
- (3) The importance of good, reliable data cannot be overemphasized. "Garbage in, garbage out."
- (4) Implementing multiple programs at any given time works in capturing all segments of the target population. What works for one does not necessarily work for another.
- (5) Management support is critical. No program will ever fly successfully without management support.
- (6) Health challenges should be addressed by attacking the underlying health condition, and in a wholistic manner.
- (7) Build in sustainability of the program through proper documentation. Help ensure continuity and relevance by consistently searching for and being open to new and contemporary ideas and approaches.
- (8) If a palpable impact on the healthcare of our nation is to be effected, a key captive group is those that are in the workplace setting. Design and implement relevant programs for them to be able to make the significant amount of time spent in the workplace contribute to the improvement of health condition in the country.

DIET, PHYSICAL ACTIVITY STRATEGY BANGKO SENTRAL NG PILIPINAS





BALANGA CITY GO 4 HEALTH PROGRAM

BALANGA CITY

As is typical of local government units which are performing well against various governance standards, Balanga City credits its drive and performance to the city leadership. Like members of a street band playing different instruments, the city government's offices march towards the same mission – that is for Balanga City to be “a family-oriented city with a strong learning atmosphere that will ensure sustainable development and participative governance.” That the city's mayors – both past and current – are healthy lifestyle advocates only boded well for the city health office's implementation of healthy lifestyle programs.

Many of the city government's health programs come from the national health agencies' initiatives, including the awareness of an emerging malnutrition phenomenon (overweight/obesity) among preschool-aged children. True enough, they found 4 percent of the city's preschoolers to be overweight from the annual Operation Timbang figures in 2003. Soon after, the anti-overweight/obesity drive began.

Notable among these is the **EDUCHILD Parenting Program**, an education program targeting parents of school children, and helping to enable them become responsible parents through modules on relevant topics such as financial management (emphasis on low cost but nutritious food, backyard gardening and entrepreneurship) and child development (basic nutrition for preschool aged children and growth monitoring).

The Department of Health's Go 4 Health program provides the basic framework of health programs in Balanga. This has been adapted and localized to their own context, particularly, to Balanga's own geographic and topographic context.

A topographically diverse locality with some of its 25 barangays scattered along the coast and on the mountains, Balanga city presents certain logistical challenges to the government's efforts to reach all of its constituents with basic services. As a response, the Health Office began to implement once every two weeks a Barangay Health Day where all of the city's health services – health and nutrition education, risk assessment, cancer screening, anthropometric measurements, immunization, family planning services, dental services, physical fitness activity/ies – are brought down to the barangay.

To make optimal use of its agricultural lands, especially the idle ones, the Agriculture Office initiated the **Kasama Ani sa Barangay (KAANIB)** program in 2007 and partnered with the Health Office to support the latter's campaign against addictive and non-productive lifestyle and malnutrition. The **KAANIB** program aims to promote a productive lifestyle, food security and increased income among the city's residents, especially among the most vulnerable – non-working mothers, out-of-school youth, farmers, senior citizens.

Part of the campaign to lead community members away from non-productive and self-destructive behavior is the UTown Recreation Park and Wellness Center, a multi-equipment recreation/physical activity facility on open grounds, built in May 2016.

While the Health Office reported a drop of percentage in overweight preschoolers from 4 percent in 2003 to 1.9% in 2015, they could not provide the figure for adults.

“Tamad lang ang nagugutom sa Balanga”

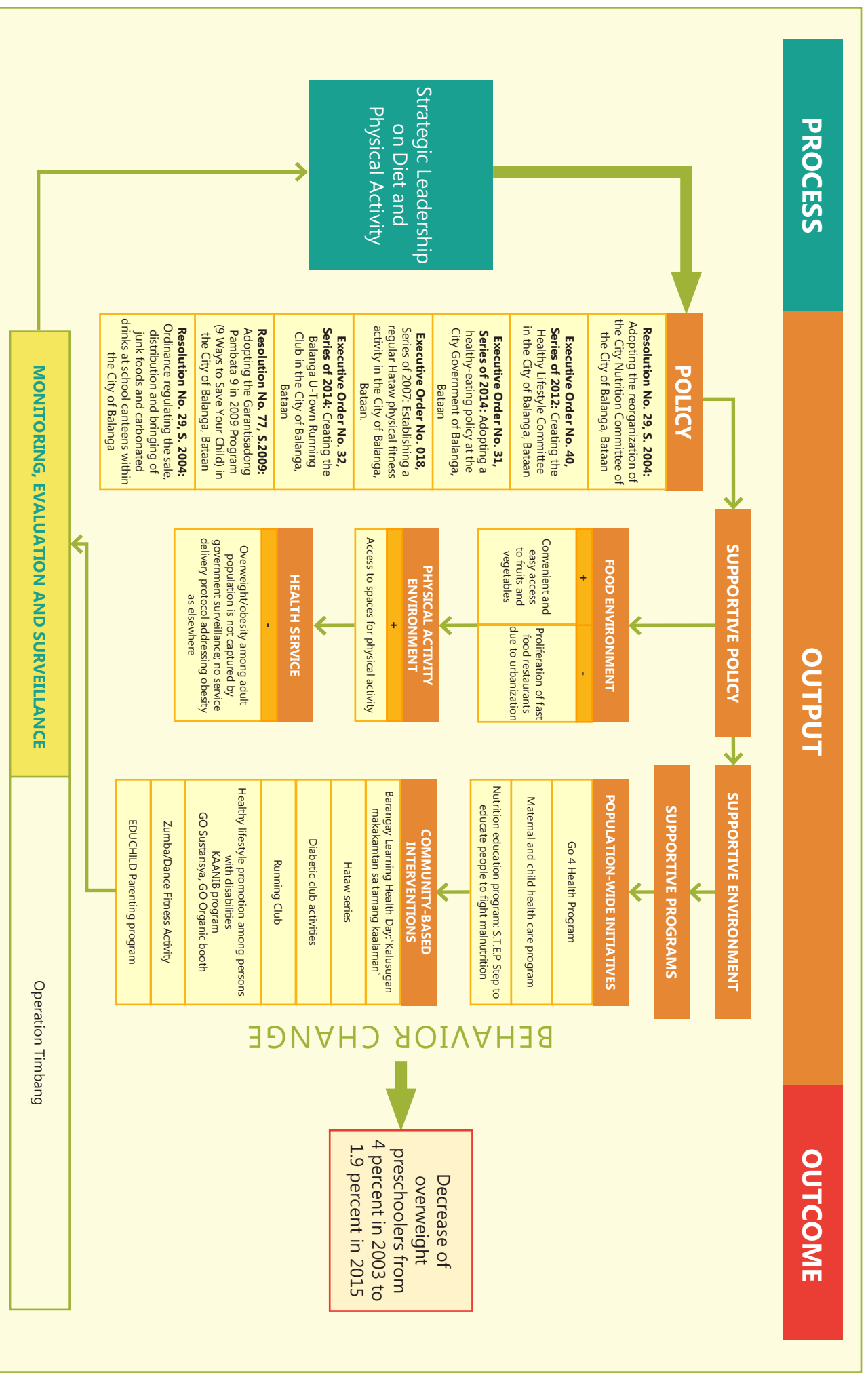
A mere “agricultural” project at first glance, KAANIB (KAsama..ANi sa Barangay), since it started in 2007, has achieved quite phenomenal results in contributing to the solution of a city's many challenges relating to income, waste management, food security, nutrition, and personal and professional development of residents.

The statistics are impressive: by 2015 nearly 33,000 m² of either previously idle or formerly garbage dump lots have been converted into orchards, and more than 3.7 million pesos of gross organic vegetable sales have been recorded over nine years, providing increased income to the 3,900-strong (30 in 2007) cooperators – farmers, non-working mothers, out-of-school youth, senior citizens.

As remarkable the hard facts are, even more note-worthy about the program is the impetus that it provided which brought to life the leadership, entrepreneurial and creative qualities of community members. Starting off with government grant, groups of cooperators eventually built their own capital – one group has spun off into a cooperative – and capacity to plant and manage the business and market their organic vegetable products which have been packaged as “Balanga Fresh Vegetables.”

Available daily at the public market's **Organic Kiosk** established through a Resolution to serve as the cooperators' “free” link to the market, KAANIB products help supply the entire city with fresh and organic vegetables. They are also tapped by the Health Office for the City's feeding program for malnourished children.

DIET, PHYSICAL ACTIVITY STRATEGY – BALANGA CITY



REFLECTIONS

1. **As in any public health challenge, national leadership is a prerequisite before any semblance of coherence of action could be effected and any impact perceived.**

As of report writing, two national strategy documents – the Strategy Action Plan in Addressing Non-communicable Diseases and the Multi-Sectoral Action Plan for Population-Based Prevention of Childhood Obesity, by the Department of Health and National Nutrition Council, respectively – are under development. It is anticipated that once in effect and being implemented, actors and stakeholders, especially those from other sectors outside of health –research, education, social welfare, agriculture, trade and industry, infrastructure – will have a definitive instruction as to how to contribute to national efforts addressing the public health challenge posed by obesity.

2. **There is much yet to be studied about overweight and obesity among Filipinos.**

Any action is only as good as the knowledge underpinning it. Particularly on trying to make sense of the conundrum of the “double burden” of malnutrition – undernutrition and overnutrition existing side-by-side within a population like the Philippines’ – the links between maternal, infant and young child nutrition to obesity later in life remain an area that could guide strategic and directed intervention. International researches, including those using sample populations from developing countries, affirm that improving maternal, infant and young child nutrition is an approach that will have multiple health benefits in addition to reducing obesity in adulthood.

3. **Leadership is a critical factor in anti-overweight/obesity efforts across all settings.**

Leadership, whether it be from a school principal or company/organization’s management or a local chief executive, has been cited as the one defining factor that determines whether any anti-overweight/obesity program will be successful – indeed, if there’ll be one at all – or not. National health agencies driving the anti-overweight/obesity campaign stand a higher chance of seeing their efforts turn into concrete action plans at the local settings level by first focusing their information and advocacy work towards the population’s leadership segment.

4. Local government units take their direction from the national agencies.

From the underlying knowledge that informs programs, up to health challenges being prioritized, and programs being implemented and materials being used, local government units rely on the national agencies for direction. Efforts on the ground focusing more on information dissemination and less on reforming obesogenic environments are a reflection of a lack of national direction on the matter. Having a well-developed and clearly articulated, coherent multi-agency stance on the subject of obesity at the national level will make initiating and execution at the local level settings easier.

5. Monitoring and evaluation of programs and initiatives and surveillance of the population are the two trickiest and often neglected steps in program implementation.

Especially with largely information-dissemination and communication programs (which many anti-overweight/obesity programs are), monitoring and evaluation is most often skipped altogether, leaving the program with mere outputs to show and no evidence for outcomes. Except through perception-based observations by local government unit personnel, overweight/obesity in adults is not captured in any local government unit-used health surveillance mechanism. Weight of children are surveyed through the Health Office's Operation Timbang and at the schools through the Department of Education's yearly nutritional status evaluation.

6. Taken together, anti-overweight/obesity programs and models at the different settings make for a national effort with the potential to reach all members of the population.

In the case studies cited, we saw anti-overweight/obesity initiatives reaching out to families in Mandaluyong and Balanga Cities through each city's Health Office, we saw how physical development is inculcated among pupils at Sophia School, and we saw how BSP's holistic Weight Management Program is able to reach thousands of its employees. Households, schools, workplaces – these are all settings each with a 'captive audience' that could be developed into active participants to the anti-overweight/obesity movement. What are needed are correct information and education, clearly articulated national policy and enforcement channels, and strong and committed leadership at the local level setting to turn this knowledge and policy

NOTES TO THE CASE STUDIES

OW-OBESE PO **Overweight and Obesity Elimination** **thru Sustainable Nutrition Education Program** **Mandaluyong City**

10 Kumainments

“The 10 Kumainments,” a campaign by the NNC launched in October 2014, is composed of ten simple and easy to remember dietary and physical activity guidelines designed to help improve the Filipinos’ nutritional status. (nnc.gov.ph)

It is based on the latest (2012) Nutritional Guidelines for Filipinos developed by an inter-agency and multi-sectoral Technical Working Group led by the FNRI-DOST based on available scientific data on the Filipinos’ nutritional status and dietary habits and patterns, and considering as well socio-economic conditions and Filipinos’ cultural practices surrounding food and physical activity.

Each message is a reflection of the current scientific knowledge on the functions and interactions of nutrients, recommended levels of intake for Filipinos, and linkages between nutrition and health. (FNRI)

1. Eat a variety of foods everyday to get the nutrients needed by the body.
2. Breastfeed infants exclusively from birth up to six months then give appropriate complementary foods while continuing breastfeeding for two years and beyond for optimum growth and development.
3. Eat more vegetables and fruits everyday to get the essential vitamins, minerals and fiber for regulation of body processes.
4. Consume fish, lean meat, poultry, egg, dried beans or nuts daily for growth and repair of body tissues.
5. Consume milk, milk products, and other calcium-rich foods such as small fish and shellfish everyday for healthy bones and teeth.
6. Consume safe foods and water to prevent diarrhea and other food- and water-borne diseases.
7. Use iodized salt to prevent iodine deficiency disorders.
8. Limit intake of salty, fried, fatty and sugar-rich foods to prevent cardiovascular diseases.
9. Attain normal body weight through proper diet and moderate physical activity to maintain good health and help prevent obesity.
10. Be physically active, make healthy food choices, manage stress, avoid alcoholic beverages, and do not smoke to prevent lifestyle-related, non-communicable diseases.

Insider's Tip!

Awards – Green Banner (rank one in specific LGU category), CROWN (LGU that has maintained good performance for three consecutive years), Nutrition Honor (LGU that has maintained good performance for six consecutive years) – are handed out by the NNC annually to municipalities, cities, and provinces in the country that are able to develop a local-level nutrition action plan, implement the said action plan, and demonstrate successful health and nutrition outcomes as indicated by the weight status of the LGU's preschool and school children population.

Awardees are chosen from results of the monitoring and evaluation of implementation of the Philippine Plan of Action for Nutrition (PPAN) conducted by the NNC country-wide annually. Began in 1979 and resumed in 1991 after a cessation of activities in 1986 due to political events in the country, monitoring and evaluation of local level plan implementation (MELLPI) aims to contribute towards assessing the country's progress on implementing the PPAN by identifying strengths and weaknesses and effecting corrective measures, as needed, in order to facilitate achievement of the national plan's objectives. (NNC)

Policy

Ordinance No. 405, S-2008: An Ordinance creating a “Mandaluyong City Children’s Code”

Relevant sections and clauses:

Chapter IV (Survival and Development Rights of Children), Section 18 (Early Childhood Program Frameworks):

The Local City Government of Mandaluyong shall ensure up to the maximum extent possible the survival and development of the child. The program on survival and development shall include the following:.. (b) Growth and nutritional monitoring with nutritional feeding and supervision of nutritional intake through community visitations of Barangay Nutrition Council (BNC) and Barangay Health Workers (BHW)

Chapter IV (Survival and Development Rights of Children), Section 19 (Promotion of Primary Health Care Program):

The Barangay Health Centers shall implement the primary health program Each Barangay Health Center shall have a Barangay Child Health Officer tasked to monitor child health in the Barangay level with a salary commensurate to the task assigned and in accordance with the standards of the Civil Service Commission. The City Health Officer of Mandaluyong shall take the following appropriate measures: (a) To combat diseases and malnutrition within the framework of primary health care; ..(c) To monitor the full implementation of Executive Order 51 or the Milk Code of the Philippines and advocate the prosecution of milk firms which violate the same; (d) To conduct massive information and education on breastfeeding, utilizing existing materials for effective breastfeeding education program

Chapter IV (Survival and Development Rights of Children), Section 22 (Infant and Young Child (IYCF) Practices):

In support of the “Bright Child” Program pursuant to Executive Order 286 and in actively implementing its programs, the City hereby strengthens every health service provider in its implementation of the Infant and Young Child Feeding practices covering the whole health sector, whether government or private, including professional groups and private sectors. Every health service provider shall implement the following objectives of the IYCF: (a) To improve the survival of infants (aged 0-11 months) and young children (1 to 3 years old) by improving their national status, growth and development through optimal feeding through early initiation of breastfeeding, exclusive breastfeeding for six (6) months, and extended breastfeeding up to two (2) years and beyond; (b) That all infants are given timely, adequate and safe complementary foods, micronutrient supplementation, implementation of salt iodization and food fortification.

Executive Order No. 002-S2014: Creating Task Force Kalusugan and Implementing Nutritional Guidelines for Children in all Public and Private Schools, Day Care Centers and Barangays in the City of Mandaluyong

Select sections:

WHEREAS, in support to the noble objectives of the Department of Health (DOH) and its ongoing programs to promote healthy nutritional guidelines and combat malnutrition and obesity cases, the City of Mandaluyong in a consultative meeting has decided to form a Special Task Force to be known as Task Force Kalusugan, borne with the mission and commitment to create and find viable solutions in preventing malnutrition and obesity and to implement programs/activities specified hereunder:

- Identification of malnourished and obese students/children in the city;
- Apportioning of spaces in local public and private schools and in barangays for gardening activities with emphasis on planting and harvesting of green and leafy vegetables and medicinal plants;
- Regular conduct of awareness campaigns on malnutrition and obesity;
- Regular conduct of awareness campaigns on proper diet and exercise;
- Prohibition of selling junk foods and sodas in public and private schools;
- Other activities as may be appropriate

WHEREAS, to successfully carry out the overall mission and commitment of the Task Force Kalusugan, the City Government of Mandaluyong hereby designates the Health Office and all Nutrition Officers to closely coordinate with local public and private schools, day care centers and barangays in the City of Mandaluyong for the formulation and implementation of Nutritional Guidelines together with the conduct of proper nutrition-related activities as mentioned.

Ordinance No. 538, S-2014: An Ordinance Enacting the Mandaluyong City Code of Parental Responsibility for the Protection of Children's Rights

Relevant sections:

Article III (The Duties of Parents and the Rights of the Child), Section 10 (Rights of the Child):(4)

Every child has the right to a balanced diet, adequate clothing, sufficient shelter, proper medical attention, and all the basic physical requirements of a healthy and vigorous life...(7) Every child has the right to full opportunities for safe and wholesome recreation and activities, individual as well as social, for the wholesome use of his leisure hours...(9) Every child has the right to live in a community and a society that can offer him an environment free from pernicious influences and conducive to the promotion of his health and the cultivation of his desirable traits and attributes. (10) Every child has the right to the care, assistance, and protection of the State, particularly when his parents or guardians fail or are unable to provide him with his fundamental needs for growth, development and improvement.

Article V (Torts and Penalties), Section 16

(Attendance in Parent Effectiveness Service Sessions Mandatory):

In all cases of violations under this Ordinance, the parents concerned shall always undergo Parent Effectiveness Service Sessions to be conducted in their respective barangays in addition to the penalty imposed.

Ordinance No. 551, S-2014: An Ordinance Prohibiting the Sale of Soft drinks and Other Unhealthy Beverages in the Kindergarten, Elementary, and High School Premises of Both Public and Private Schools in the City of Mandaluyong

Select sections:

Section 2. Prohibited Acts.

It shall be unlawful for any canteen, cafeteria, restaurant, eatery and/or any stall selling food and drinks inside a kindergarten, elementary, and high school, public and/or private school premises, to sell, individual or wholesale, carbonated soft drinks or soda, along with sports drinks, punches and iced teas, and drinks containing caffeine.

Section 3. Permissible Drinks/Beverages.

The permissible drinks under this Ordinance are: 1. fruit-based drinks that do not contain additional sweeteners; 2. water and seltzer; 3. low-fat or fat-free milk, including, but not limited to, chocolate milk, soy milk, rice milk and other similar dairy or non-dairy calcium fortified milks.

Section 4. Penalties.

FIRST OFFENSE:	A fine of One Thousand Pesos (P1,000.00)
SECOND OFFENSE:	A fine of Two Thousand Pesos (P2,000.00)
THIRD OFFENSE:	A fine of Three Thousand Pesos (P3,000.00) or revocation of license or both

Resolution No. 1963, S-2014: Resolution enjoining the Mandaluyong School Board to Allocate Funds for the Purchase of Detecto/Beam Balance Weighing Scale to ensure that All Public Elementary and Secondary Schools in Mandaluyong will have at least One Unit of Detecto-Beam Balance Weighing Scale

Select sections:

WHEREAS, the Department of Education (DepEd) in its Memorandum No. 165, Series of 2010 entitled "Adoption of the 2007 WHO-CGS" ordered all Regional Directors, Schools Division/City Superintendents, Heads of Public and Private Elementary and Secondary Schools to use the World Health Organization-Child Growth Standards (WHO-CGS) in determining the nutritional status of Filipino school children age 5-19 years old;

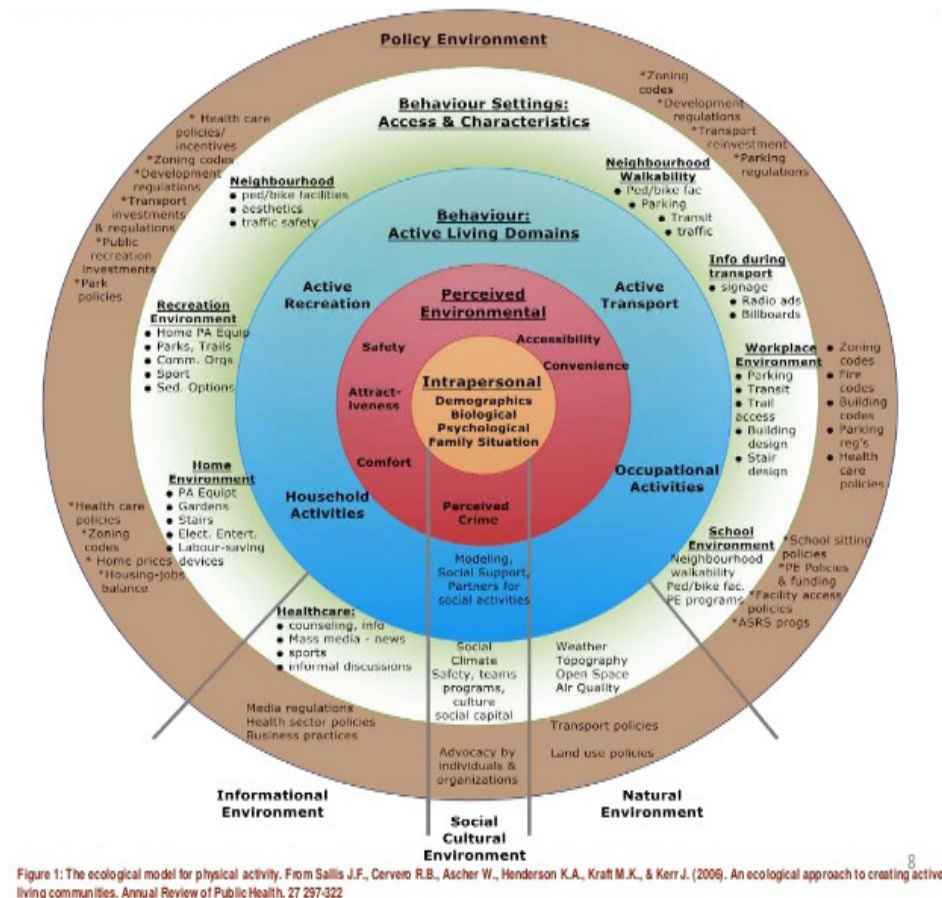
WHEREAS, in the same Memorandum, school heads are responsible in the provision of the beam balance scale with height scale as tools for height and weight-taking;

NOW, THEREFORE, on motion duly seconded, the Sangguniang Panlungsod of Mandaluyong, in session assembled, RESOLVED, as it hereby RESOLVES, to enjoin the Mdaluyong School Board to allocate funds for the purchase of detecto/beam balance weighing scale to ensure that all public elementary and secondary schools in Mandaluyong will have at least one unit of detecto-beam balance weighing scale to be used in the baseline and endline weighing activities and regular growth monitoring of school children.

BELLY GUD FOR HEALTH

Department of Health – Central Office

Ecological Model for Physical Activity



Some aspects of the neighborhood physical environment that could be investigated in relation to physical activity are: (D’Haese, Cardon, Deforche)

- Land use mix diversity: refers to the level of integration within an area of different types of uses for physical space, including residential, office, retail/commercial, institutional, industry, and public space. A neighborhood with a high mixture of different land uses (e.g. schools, shops, houses, sports facilities) is a neighborhood with a high land use mix diversity.
- Street connectivity: refers to the directness or ease of travel between two points which is directly related to characteristics of street design. A neighborhood with high street connectivity is characterized by many interconnected streets.

- Residential density: refers to the number of residential units per unit of land area. A neighborhood with a lot of residential buildings on a small area is a neighborhood with a high residential density.
- Walkability: land use mix diversity, street connectivity and residential density are often combined into a walkability index. A high walkable neighborhood is characterized by high land use mix diversity, high street connectivity and high residential density.
- Accessibility: refers to the ease by which desired places or activities can be reached and refers to the land-use system and transportation system. e.g. easy to walk to a transit stop.
- Walking and cycling facilities: refers to the presence and characteristics of facilities for walking and cycling. eg. presence of sidewalks, crosswalks, bike lanes.
- Aesthetics: refers to the aesthetic value of the neighborhood and may include aspects of pleasantness, interesting architecture, environmental upkeep, pollution, natural elements.
e.g. beautiful scenery, graffiti.
- Safety: is most investigated as traffic safety (e.g. presence of traffic lights) or crime safety (e.g. absence of street danger).
- Recreation facilities: refers to the quality and presence of e.g. parks and playgrounds.
- Urbanization: refers to the degree of urbanization in a neighborhood. e.g. rural versus urban area.

Policy

Civil Service Commission Memorandum Circular No. 8, s.2011: Reiteration of the Physical Fitness Program "Great Filipino Workout": (1) allotment of a reasonable time for regular physical fitness exercise and inclusion of physical fitness exercises in seminars, training programs and similar occasions; (2) adoption of plans for a continuing physical fitness and sports activities. These activities shall be integrated as part of the agency health and wellness program.

BALANGA CITY GO 4 HEALTH PROGRAM

Balanga City

Policy

Resolution No. 29, S. 2004 : Adopting the reorganization of the City Nutrition Committee of the City of Balanga, Bataan.

Relevant sections and clauses:

Whereas, malnutrition continues to be one among the problems of the city that needs to be addressed;

Whereas, there is a need to reorganize the City Nutrition Committee in order to strengthen the Local Nutrition Program;

Whereas, the City Nutrition Committee shall implement the following functions: a) draw up the Nutrition Action Plan; b) coordinate implementation and monitoring of agency/sector nutrition activities; c) conduct periodic field visits and meetings with CNC/BNC to assess progress of program implementation; d) serve as resource person to groups on the nutrition program; e) hold regular quarterly meetings.

Executive Order No. 018, Series of 2007 : Establishing a regular Hataw physical fitness activity in the City of Balanga, Bataan.

Relevant sections and clauses:

Now therefore, I, Jose Enrique S. Garcia III, by virtue of the powers vested upon me by law as the Chief Executive of the City of Balanga, do hereby establish a regular Hataw Physical Fitness Activity in the City of Balanga, Bataan, to be conducted as follows: 1. The hataw physical fitness activity for City Government of Balanga employees shall be held at the City Plaza of Balanga after the weekly Flag Retreat ceremonies every Friday; 2. The community hataw physical fitness activity for residents of Balanga City shall also be held at public places in every barangay every Tuesday, Thursday and Saturday from 6:00 o'clock until 7:00 o'clock in the morning.

Resolution No. 77, S. 2009 : Adopting the Garantisadong Pambata 9 in 2009 Program (9 Ways to Save Your Child) in the City of Balanga, Bataan.

Relevant sections and clauses:

Whereas, Garantisadong Pambata is a campaign to support various health programs to reduce childhood illnesses and deaths by promoting positive child care behaviors;...

Resolved, as it is hereby resolved, by this Body, in a regular session, duly convened, to pass a Resolution adopting and institutionalizing the Garantisadong Pambata Program for the promotion of the general welfare and uplift health services in the City of Balanga.

Executive Order no. 40, Series of 2012 : Creating the Healthy Lifestyle Committee in the City of Balanga, Bataan.

Relevant sections and clauses:

Whereas, it has been determined that the leading causes of mortality and morbidity are lifestyle-related diseases, while the common health risk factors are physical inactivity, poor nutrition, smoking and alcohol consumption.

Whereas, there is a need to create a Healthy Lifestyle Committee in the City of Balanga, Bataan in order to address the health needs and promote the health and well-being of Balangueños;

Now therefore, I, Jose Enrique S. Garcia III, by virtue of the powers vested upon me by law as the Chief Executive of the City of Balanga, do hereby create the Healthy Lifestyle Committee in the City of Balanga, Bataan, to wit:

Section I Composition : The said Committee shall be known as the Healthy Lifestyle Committee to be composed of the following: Chairman : Hon. Jose Enrique S. Garcia III, City Mayor.

Section II Functions, Powers and Duties : The Healthy Lifestyle Committee shall have the following duties and functions: 1. Propose programs and activities that will reduce the incidence of lifestyle-related deaths and diseases; 2. Provide recommendations that will focus on addressing problems arising from the four identified health risk factors, namely, physical inactivity, poor nutrition, smoking and alcohol drinking in order to sustain a (sic); 3. Coordinate with the city departments and offices in the promotion of healthy lifestyle among the residents of Balanga City.

Executive Order no. 32, Series of 2014 : Creating the Balanga U-Town Running Club in the City of Balanga, Bataan.

Relevant sections and clauses:

Whereas, the creation of a body oriented towards the sport and recreation of running to actively promote healthy lifestyle is deemed imperative to ensure the successful implementation of the Healthy Lifestyle Program of the City as an innovative and effective public health awareness initiative;

Now therefore, I, Jose Enrique S. Garcia III, by virtue of the powers vested upon me by law as the Chief Executive of the City of Balanga, do hereby create the Balanga U-Town Running Club in the City of Balanga, Bataan (hereinafter, the "Running Club")... : Section II Mission, Vision and Objectives : 1. To encourage exercise for fun and fitness for the residents of Balanga City; 2. To promote running as a healthy lifestyle choice and encourage non-competitive participation in the sport of running; 3. To provide an enjoyable, supportive and positive running atmosphere among its members; 4. To provide educational information about the benefits of running and its safety...

Ordinance No. 20 S. 2014 : Ordinance regulating the sale, distribution, and bringing of junk foods and carbonated drinks at school canteens within the City of Balanga.

Relevant sections and clauses:

Section 2. Selling, distribution and bringing of healthy foods at school canteens within school premises.

- a. The sale in school canteens of junk foods and carbonated drinks is hereby regulated. Any junk foods and carbonated drinks that may be detrimental to the child's health and that do not bear the Sangkap Pinoy seal and/or did not pass BFAD approval are not allowed to be sold in schools.
- b. Only nutrient-rich foods such as root crops, noodles, rice and corn products in native preparation, fruits and vegetables in season, and fortified food products labeled rich in protein, energy, vitamins and minerals shall be sold in the school canteen. Beverages shall include milk, shakes and juices prepared from fruits and vegetables in season.
- c. Vendors shall not be allowed to bring in junk foods and carbonated drinks inside the school canteen/premises. Teachers and school personnel are likewise prohibited from selling such food items within the school premises.

Section 3. Monitoring and Enforcement. A monitoring team shall be created to ensure adherence to standards on quality, handling, and serving of food in the school canteens and that food safety standards and hygienic practices are strictly observed and implemented. The monitoring team shall be composed of the following: the City Health Officer, City Licensing, Franchise, and Permit Officer, City Public Safety Officer, a representative from the each school within the City, and MSGC representative.

Section 5. Penalty.

First Offense – fine of one thousand pesos (Php 1,000.00), with stern warning that another violation may constitute revocation of permit to operate or voluntary community service in lieu of the fine

Second Offense – Fine of two thousand pesos (Php 2,000.00) or revocation of permit to operate.

Third Offense – Revocation of license to operate.

The above penalty is without prejudice to the provisions of the grievance procedure under the DepEd Rules of Procedures if applicable.

Executive Order No. 31, Series of 2014 : Adopting a healthy-eating policy at the City Government of Balanga, Bataan.

Relevant sections and clauses:

Whereas, the City Government is cognizant that serving nutritious food in the workplace is a vital part of Balanga's "Go4Health, Go Sustansya" program to promote healthy-eating among its employees in order for them to achieve good health, productivity and positive wellbeing;

Whereas, the City Government seeks to encourage its officials, employees, clients and visitors to make healthy-eating choices and to eat nutritious foods such as fruits and vegetables, and food and drinks with low fat, sugar and salt content during meetings, events and other activities;...

Now therefore, I, Jose Enrique S. Garcia III, by virtue of the powers vested upon me by law as the Chief Executive of the City of Balanga, do hereby adopt a healthy-eating policy at the City Government of Balanga, Bataan (hereinafter, the "Policy"):

Section I Scope – This Policy shall apply to all food and drinks served or available at all meetings, events and activities (including workshops and trainings) of the City Government where catering is provided for officials, staff, clients and visitors.

Section II Nutrition Standards – All food and drinks provided by the City Government of Balanga shall consist mostly of foods and drinks recommended under the Nutritional Guidelines for Filipinos by the Food and Nutrition Research Institute (FNRI) – Department of Science and Technology (DOST).

Section III Healthier Food Choices – The following are examples of healthy foods and drinks that may be served during the implementation of this Policy, to wit: 1. Fiber-rich carbohydrates such as brown rice, root crops, cereals, noodles, whole wheat bread; 2. Fresh fruits/juices, vegetables, legume; 3. Lean meat no fat visible; 4. Fish and dried beans; 5. Food with less fat, salt and sugar; 6. Light salad dressing: vinaigrette, light mayo, yogurt, fruit puree, herbs/pesto; 7. Offering of a variety of beverages: water, fresh fruit juices, low fat milk beverages; 8. Application of low fat cooking methods like broiling, grilling, roasting, poaching, stir-frying, baking, steaming and boiling.

WORKS CITED

Bassett, J, Caterson, I, Chunming, Chen, Ikeda, Y, Inoue, S, Khalid, AK, Kim, YS, Zimmet, P. The Asia-Pacific perspective: Redefining obesity and its treatment. Australia: Health Communications Australia Pty Limited, 2000. Print.

De Onis, Mercedes. World Health Organization Reference Curves. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Geneva: 2015. Retrieved from ebook.ecog-obesity.eu.

D'Haese, Sara, Cardon, Greet, Deforche, Benedicte. The environment and physical activity. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Ghent: 2015. Retrieved from ebook.ecog-obesity.eu.

Duante, Charmaine, RMT, MSc. Epid. 'Burden of Selected Risk Factors to Non Communicable Diseases (NCDs) Among Filipino Adults'. 2014. Presentation.

Florentino, Rodolfo F., M.D., Ph.D., ed. State of the Art of Obesity Research in the Philippines: 1981-2011. Pasig City: Philippine Association for the Study of Overweight and Obesity, 2014. Print.

Hollis, Jenna and Robinson, Sian. Prenatal experience and childhood obesity. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Aberdeen: 2015. Retrieved from ebook.ecog-obesity.eu.

Inquirer.net. 'DOF pushes higher soft drinks tax.' Inquirer 2016: N.p. Web. 05 July 2016.

Issanchou, Sylvie and Nicklaus, Sophia. Sensitive periods and factors in the early formation of food preferences. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Dijon: 2015. Retrieved from ebook.ecog-obesity.eu.

Mazur, Artur, Radziewicz-Winnicki, Igor. Obesity and media. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Rzeszów: 2015. Retrieved from ebook.ecog-obesity.eu.

Prioritizing Areas for Action in the Field of Population-based Prevention of Childhood Obesity, a Set of Tools for Member States to Determine and Identify Priority Areas for Action. Geneva: World Health Organization, 2012. Print.

Shapeup.org., 'Decreasing consumption of energy-dense foods'. N.p. Web. 23 February 2016.

Socha, Piotr. Metabolic programming, breastfeeding and later risk of obesity. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Warsaw: 2015. Retrieved from ebook.ecog-obesity.eu.

Talking Points – 2015 Nutrition Month. Taguig City: National Nutrition Council, 2015. Print.

Van Lippevelde, Wendy, Maes, Lea, Braet, Caroline. School and obesity. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Flanders: 2015. Retrieved from ebook.ecog-obesity.eu.

Yang, Zhenyu, Huffman, Sandra L. Nutrition in pregnancy and early childhood and associations with obesity in developing countries. Maternal and Child Nutrition. Hoboken: 2012. Retrieved from Wiley Online Library.

BIBLIOGRAPHY

Bassett, J, Caterson, I, Chunming, Chen, Ikeda, Y, Inoue, S, Khalid, AK, Kim, YS, Zimmet, P. The Asia-Pacific perspective: Redefining obesity and its treatment. Australia: Health Communications Australia Pty Limited, 2000. Print.

De Onis, Mercedes. World Health Organization Reference Curves. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Geneva: 2015. Retrieved from ebook.ecog-obesity.eu.

D'Haese, Sara, Cardon, Greet, Deforche, Benedicte. The environment and physical activity. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Ghent: 2015. Retrieved from ebook.ecog-obesity.eu.

Duante, Charmaine, RMT, MSc. Epid. 'Burden of Selected Risk Factors to Non Communicable Diseases (NCDs) Among Filipino Adults'. 2014. Presentation.

Exploring new frontiers in food and nutrition R&D through Nutrigenomics. Taguig City: Food and Nutrition Research Institute-Department of Science and Technology, 2013. Print.

Florentino, Rodolfo F., M.D., Ph.D., ed. State of the Art of Obesity Research in the Philippines: 1981-2011. Pasig City: Philippine Association for the Study of Overweight and Obesity, 2014. Print.

Guidelines on the monitoring and evaluation of the Philippine Plan of Action for Nutrition at provincial, city and municipal levels. Taguig City: National Nutrition Council, 2006. Print.

Hollis, Jenna and Robinson, Sian. Prenatal experience and childhood obesity. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Aberdeen: 2015. Retrieved from ebook.ecog-obesity.eu.

Inquirer.net. 'DOF pushes higher soft drinks tax.' Inquirer 2016: N.p. Web. 05 July 2016.

Issanchou, Sylvie and Nicklaus, Sophie. Sensitive periods and factors in the early formation of food preferences. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Dijon: 2015. Retrieved from ebook.ecog-obesity.eu.

Mazur, Artur, Radziewicz-Winnicki, Igor. Obesity and media. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Rzeszów: 2015. Retrieved from ebook.ecog-obesity.eu.

Nnc.gov.ph., 'NNC launches "10 Kumainments" for Pinoys' healthy lifestyle'. N.p. Web. 27 February 2016.

Prioritizing Areas for Action in the Field of Population-based Prevention of Childhood Obesity, a Set of Tools for Member States to Determine and Identify Priority Areas for Action. Geneva: World Health Organization, 2012. Print.

Shapeup.org., 'Decreasing consumption of energy-dense foods'. N.p. Web. 23 February 2016.

Socha, Piotr. Metabolic programming, breastfeeding and later risk of obesity. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Warsaw: 2015. Retrieved from ebook.ecog-obesity.eu.

Talking Points – 2015 Nutrition Month. Taguig City: National Nutrition Council, 2015. Print.

Who.int., 'Obesity and overweight'. N.p., 2015. Web. 22 February 2016.

Van Lippevelde, Wendy, Maes, Lea, Braet, Caroline. School and obesity. In M.L. Frelut (Ed.), The ECOG's eBook on Child and Adolescent Obesity. Flanders: 2015. Retrieved from ebook.ecog-obesity.eu.

Yang, Zhenyu, Huffman, Sandra L. Nutrition in pregnancy and early childhood and associations with obesity in developing countries. Maternal and Child Nutrition. Hoboken: 2012. Retrieved from Wiley Online Library.

ACKNOWLEDGMENTS

This writer would like to thank those individuals and offices that had been generous with their time to talk to us and respond to our questions as we were developing this report.

Thank you all so very much,

Dr. Mario V. Capanzana, **Food and Nutrition Research Institute**

Dr. Ella Naliponguit, **Department of Education**

Ms. Jovita B. Raval, **National Nutrition Council**

Ms. Arlene Ang, **Civil Service Commission**

Ms. Rose Holandes, Ms. Rose Aguirre, Dr. Elizabeth Caluag,
Dr. Mela Napiza-Granada, **Department of Health**

Dr. Teresita S. Cucueco, Dr. Jehremias M. Florante, **Occupational Safety and Health Center**

Ms. Teresa delos Reyes, **Mandaluyong City**

Dr. Susan Y. Sison, Dr. Arlene Ong, Dr. Greg Suarez II, Mr. Allan Fulles,
Ms. Yancy Ann Liwanag, **Bangko Sentral ng Pilipinas**

Dr. Mariano Antonio T. Banzon, Ms. Melcris Almario, Ms. Jowee Zabala, **Balanga City**

Ms. Ann Abacan, **Sophia School**

Addressing the Challenge of **OVERWEIGHT & OBESITY** in the Philippines

