

# IMPROVING FOOD AND NUTRITION SECURITY IN THE PHILIPPINES THROUGH SCHOOL INTERVENTIONS

Oro,Emilita;Agdeppa, Imelda;Baguilat, Irish;

Gonsalves, Julian;Capanzana, Mario;Anunciado, Ma. Sheila;Sarmiento, Ian  
Kurt;Itliong, Kirstein;de Castro, Ronnie;

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*IDRC Grant/ Subvention du CRDI: 108156-001-Improving food and nutrition security in the Philippines through school interventions*



# Improving Food and Nutrition Security in the Philippines through School Interventions





**CHILD STUNTING**  
Low height for age



**CHILD OVERWEIGHT**  
High weight for height

## South East Asia Average

- C. Best et al, 2010 [a review of 369 studies (2002 to 2009) from 76 countries: developing and in transition]



**CHILD WASTING**  
Low weight for height



32%  
(+/-23 SD)

**MICRONUTRIENT  
DEFICIENCY**  
iron, folic Acid, vitamin A,  
zink, iodine below healthy  
thresholds



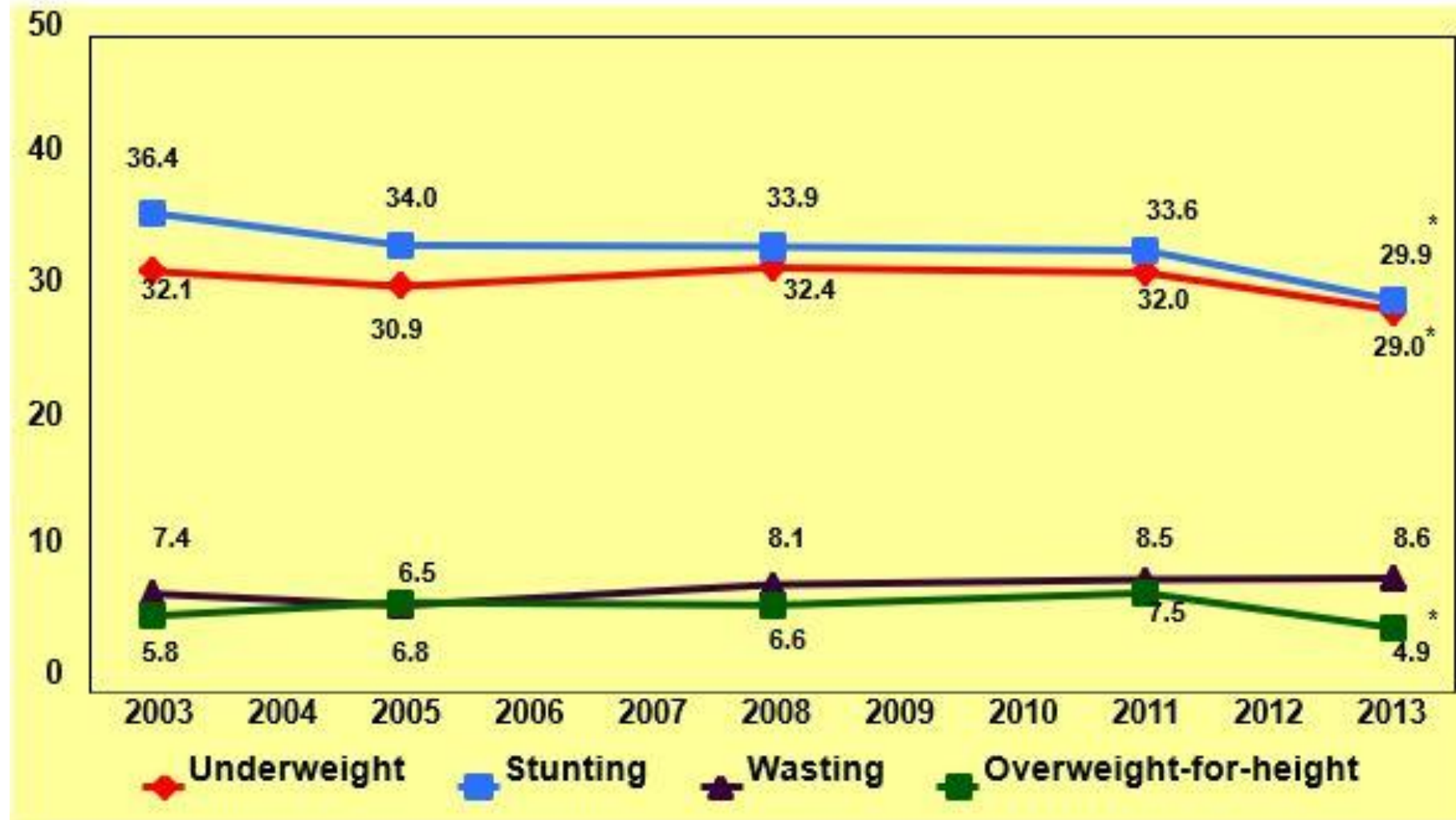
# National Nutrition Survey 2013 (FNRI-DOST)

Results among children (5.08-10.0 years old)

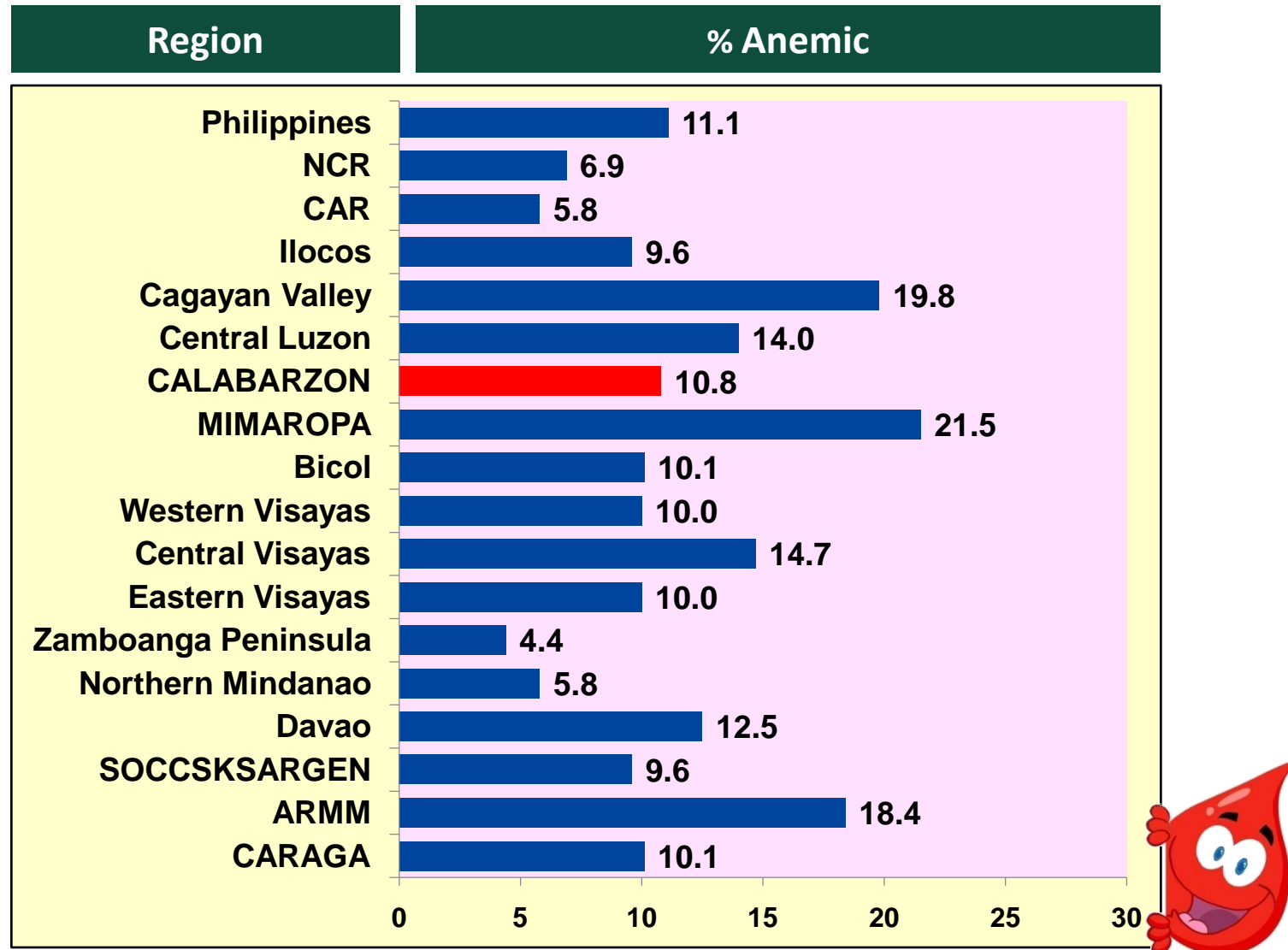




# Trends in the prevalence of malnutrition among children, 5.08-10.0 years old (60-120 months): Philippines, 2003-2013



# Prevalence of anemia among children, 6.0–12.0 years old by region: Philippines, 2013



**What can  
be done**





A study of the California Department of Health Services showed that students who had experienced gardening ate more fruits and vegetables.

- [www.kavanaghcommunity.org](http://www.kavanaghcommunity.org)





Nutrition education and nutrition programs that are **LINKED** to school gardens have resulted to improved academic achievement.

“School Garden Statewide Survey – 2002,” Nutrition Services Division, California Department of Education, (unpublished)  
Center for Ecoliteracy, *The Edible Schoolyard*. Learning in the Real World, Berkeley, California, 1999.  
Life Lab Science Program, *Getting Started – A Guide for Creating School Gardens as Outdoor Classrooms*. Center for Ecoliteracy, Berkeley, California, 1997



# DepEd's Programs

**SBFP Objective:** To improve the nutritional status of the 552,038 SW and 1,271,405 W learners

**GPP Objective:** To promote food security in schools and communities through self-help food production activities and values among learners and appreciation of agriculture as a life support system.

## Short Overview of Division's Plans/Framework

### Nutrition Support

- School-Based Feeding Program
- Gulayan sa Paaralan Program
- National Salt Iodization Program

### School Health Service Delivery Systems

- Learner Health Appraisal System (LHAS)
- Integrated Helminth Control Program (IHCP) - Schistosomiasis Prophylaxis
- School-Based Immunization Program
- Oral Urgent Treatment (OUT)
- Oral Health Program – Bright Smiles, Bright Future (BSBF)
- Mental Health and Psychosocial Support (MHPSS)
- Sports Medicine: Screening/Management of Athletes and Coaches
- Tamang Serbisyong Kalusugang Pampamilya (TSEKAP) for Teachers and NTP
- BP ng Teacher Ko Alaga Ko

### Healthy School Environment

- Wash in Schools (WinS)
- Toxic Free Schools
- School-Based HIV AIDS Education Program
- National Drug Education Program
- Smoke Free Environment / Tobacco Control Program
- Mental Health and Psychosocial Support Programs
- Health Promoting Schools



There is growing evidence that school-based nutrition education encourages healthy eating and exercise, especially on preventing of obesity.

-2016 Global Nutrition Report





**Studies also showed that school feeding programs increase school enrollment, cognition and educational achievement.**

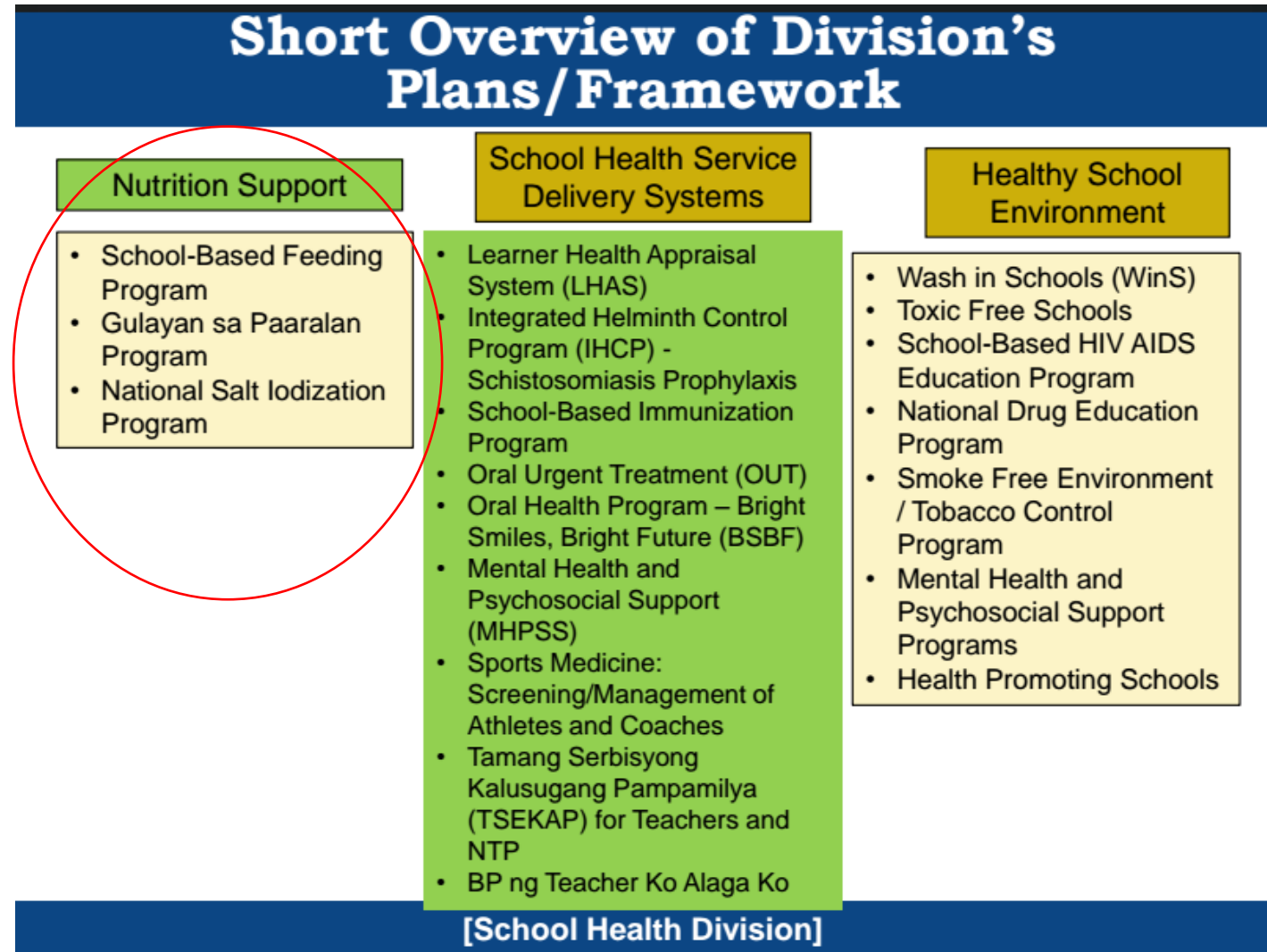
*-DepEd Operational Guidelines on the Implementation of SBFP*



# DepEd's Current Programs and Targets

**SBFP Objective:** To improve the nutritional status of the 533,425 SW and 1,385,039 W learners

**GPP Objective:** To promote food security in schools and communities through self-help food production activities and values among learners and appreciation of agriculture as a life support system.





# Challenges

## Garden sustainability

- Physical factors
  - poor soil quality, space, poor drainage & water access
- Multiple tasks of teachers, among others

Weak link between: gardens – feeding and garden - learning

Availability of evidence for reference of policy makers

Locally-innovated models for more effective & efficient implementation of nutrition programs

# **Phase 1: Model Development**

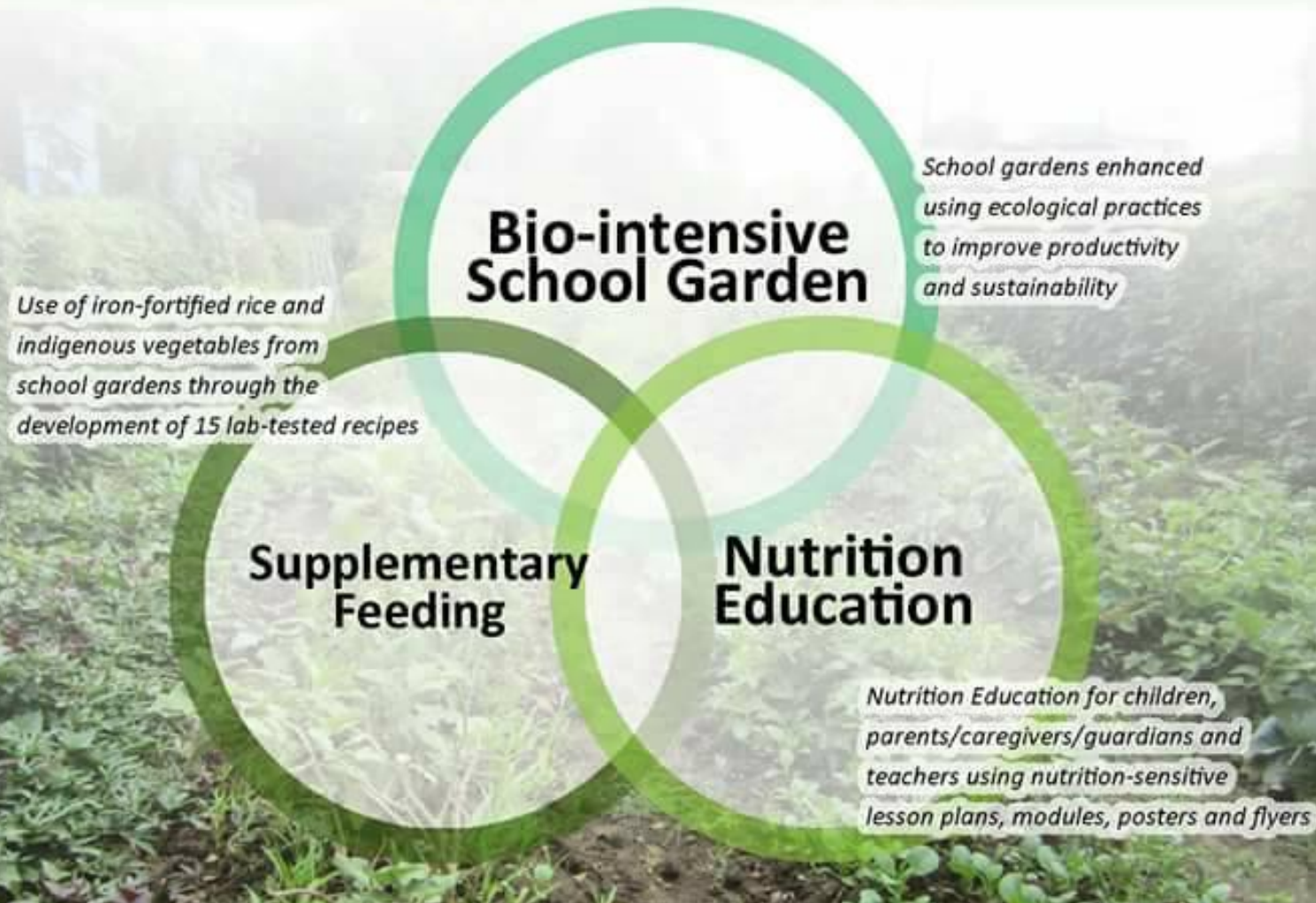
- **Phase 1 (2012-2015) “Integrated Approach to Address Food and Nutrition Security in the Philippines”**
- **developed and tested the integrated school nutrition model**
- **IIRR, FNRI-DOST, DepEd Region IVA specifically Cavite**
- **The complete package of the model was tested in 2 research sites in Cavite and 25 schools for selected components**

# Phase 2

- **Phase 2 (28 months): February 2016 - May 2018**
- **IIRR, FNRI-DOST, DepEd, DA Region 4A**
- **Supported by International Development Research Centre**



# Integrated School Nutrition Model



# Phase 1 results



✓ Improved nutritional state of school children (weight and anemia prevalence)

✓ Improved knowledge and attitude towards nutrition and gardening through education

✓ Enhanced garden productivity and functionality

# Phase 1 results



✓ Improved year-round availability of diverse vegetables with lesser inputs, easier maintenance of gardens and overall improvement in yield and crop performance (as perceived by implementers)

✓ Conservation and mass production of indigenous vegetables through the establishment of 27 school crop museums

## Phase 2: Objectives

### **General Objectives:**

**To institutionalize and scale up the implementation of a sustainable, holistic, gender-sensitive, and integrated school nutrition model to improve nutritional awareness and status of school-age children in the Philippines.**



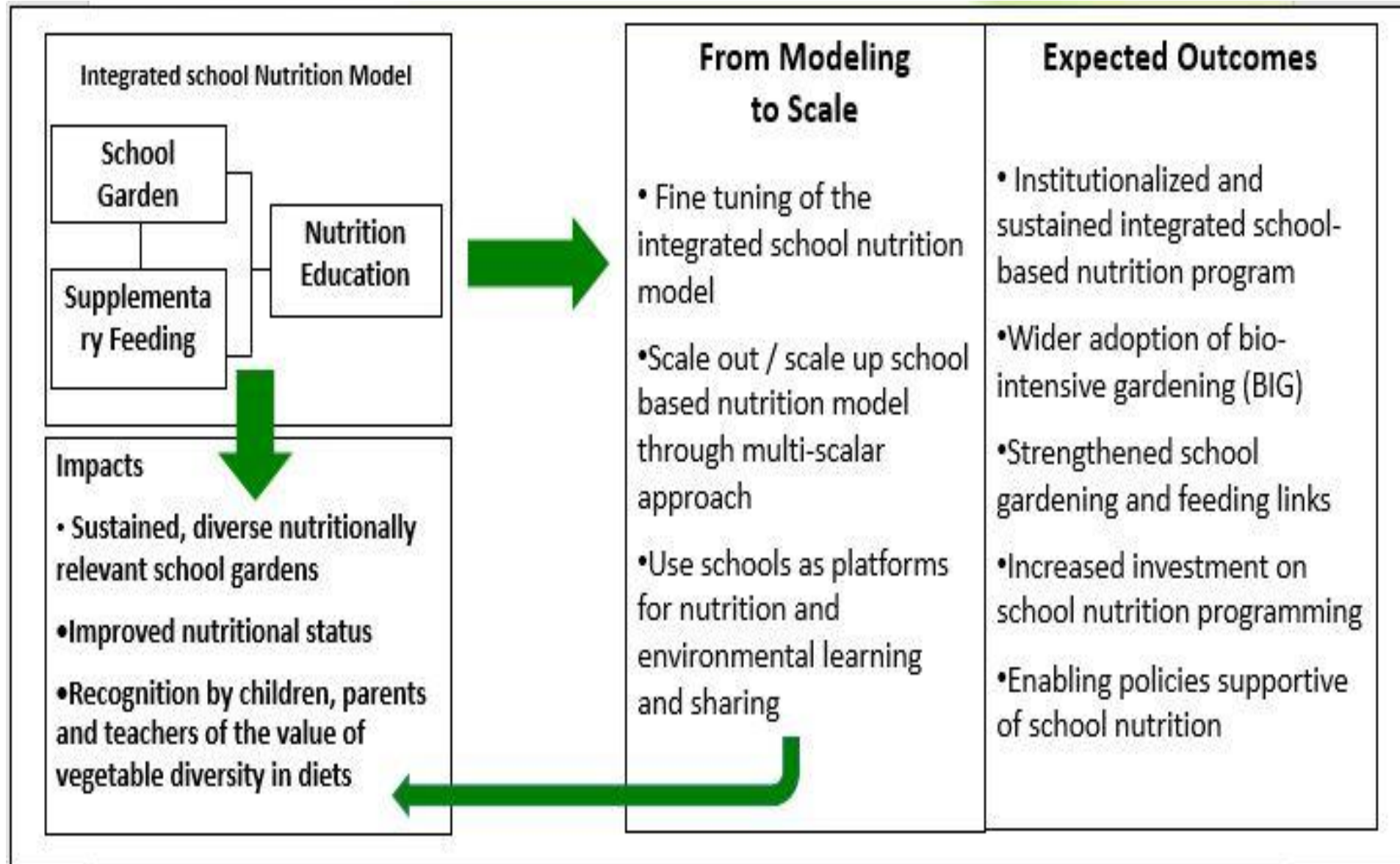
## **Phase 2: Objectives**

**To fine-tune the implementation of an integrated school nutrition model in the Philippines**

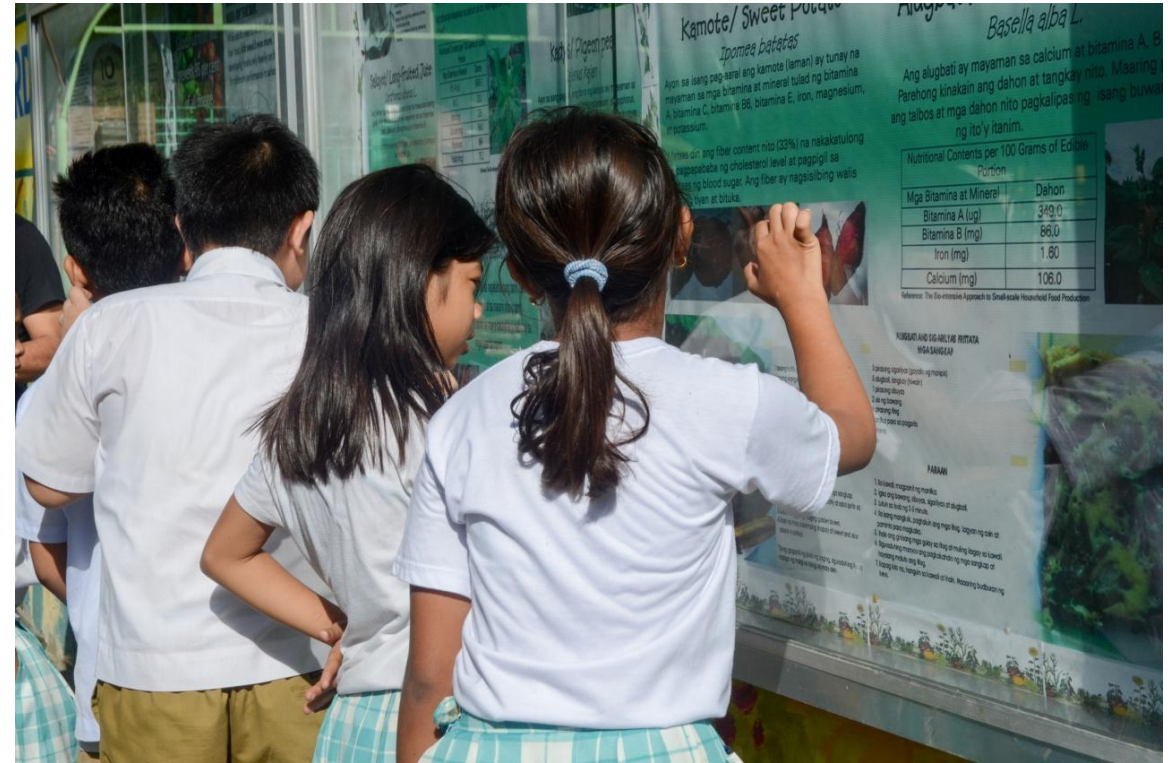
**To test a multi-scalar approach to scale up and sustain the school nutrition model**

**To use schools as platforms for nutritional and environmental learning and sharing**

# Research Framework



# Component 1: Nutrition Education



# STRATEGIES

## Formal Nutrition Education

1. **Integration of nutrition and related themes in the curriculum**
2. Use of the Gulayan sa Paaralan as a learning laboratory
3. **Nutrition School-Home Connection**

## Non-formal Nutrition Education

1. Nutrition education for parents
2. Nutrition IEC materials
3. School Nutrition Board





**Nutrition Education before the Feeding Proper**





**Nutrition Integration in classroom discussion**





**Establishment of Nutrition Learning Resource Centers and display of posters give parents and students access to nutrition and gardening information**



# Nutrition Education for parents & the community

Familiarize them with indigenous vegetables and recipes





# Component 2: School Gardens







Sustained  
diverse  
gardens  
functioning  
as nutrition  
source and  
learning















# Component 3: School-based Feeding





Lumpia Gulay



Ginataang Sigarilyas at Kalabasa



Misua, Patola at Kulitis



Gulay na Malunggay



Gisadong Talinum at Galunggong



Utan



Gisadong Munggo at Talinum



Ensaladang Kulitis at Fried Galunggong



Linubihang Munggo

**Availability of recipes that utilizes indigenous vegetables grown in school gardens is key to linking the 2 programs**



# Iron-rich recipes



**Ginisang Togue**



**Tofu Balls with Sweet & Sour Sauce**



**Tortang Gulay**



**Beans-Tok Lumpia**



**Pork Vegie Soup**



**Rebosadong Gulay**



**Bean-Squash Patties**



**Corny Malunggay**



**Ginulayang Munggo**



**Vegie Tofu**



**Beef Zesty in Sauce**



**Fried Vegie Tuna**



**Ginataang Tuna**



**Picadillo Malunggay**



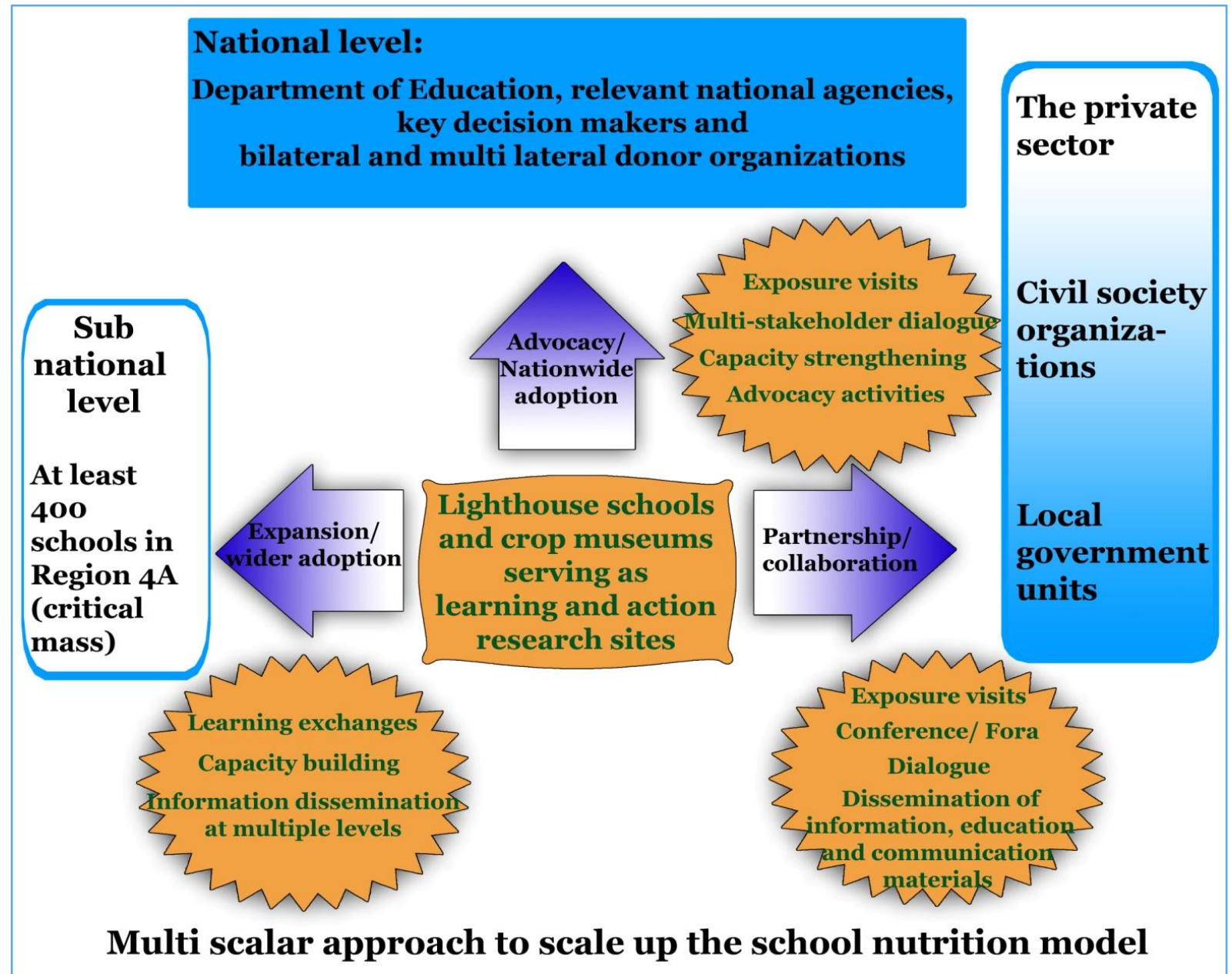
**White Bean Stew**

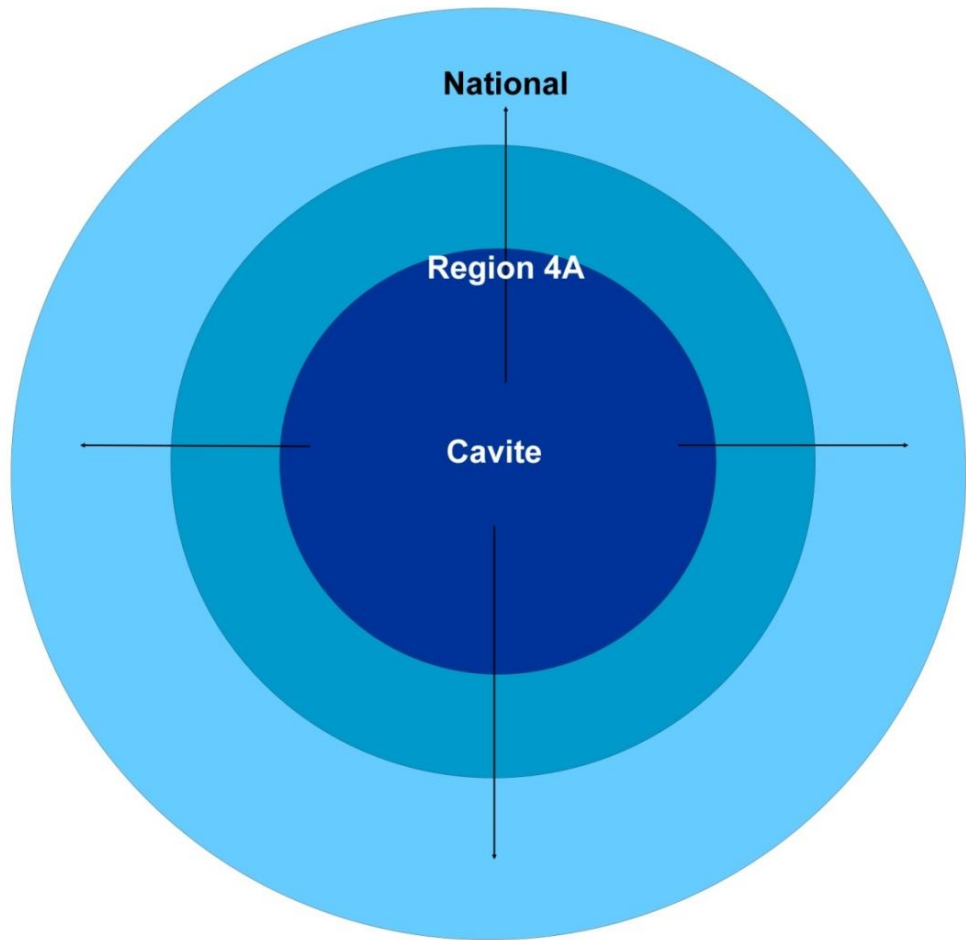
# Strategies for scaling up



## Up scaling

- Institutionalized and sustained integrated school-based nutrition program
- Wider adoption of bio-intensive gardening (BIG)
- Strengthened school gardening and feeding links
- Increased investment on school nutrition programming
- Enabling policies supportive of school nutrition





- Our goal is to make CALABARZON a lighthouse region (evidence-based) where others will learn from
- To generate data on ways to enhance efficiency and effectiveness of school nutrition program
- How do we ensure that dissemination and scaling out of the model will happen in each division?



REGIONAL MEMORANDUM

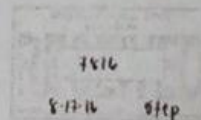
No. 266 s, 2016

TO : SCHOOLS DIVISION SUPERINTENDENTS

FROM : DIOSDADO M. SAN ANTONIO  
Director IV

SUBJECT : IMPLEMENTATION OF THE "INTEGRATED SCHOOL NUTRITION MODEL IN CALABARZON"

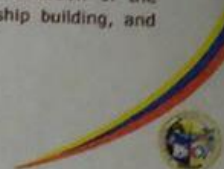
DATE : August 15, 2016



The International Institute for Rural Reconstruction (IIRR) in coordination with the Department of Education IV-A, Education Support Services, Health and Nutrition Unit and Division of Cavite Province has been introducing the Integrated Approach on School Nutrition Program under the umbrella of the project "Improving Food and Nutrition Security in the Philippines through School Interventions", a scaling up project is being implemented in the region. The aim is to test the effectiveness of the Integrated Nutrition Model in decreasing the percentage of malnourished school children in CALABARZON.

Schools provide strategic, targeted pathways for delivering nutrition interventions among children and, indirectly, to their families and communities. The 3-year action research project (Phase 1) funded by IDRC from 2012 to 2015 was developed and was tested on integrated nutrition model of gardening using bio intensive gardening approach, supplementary feeding using iron-fortified rice and indigenous vegetables and nutrition education for children and parents.

Results showed that supplementary feeding of malnourished school children using iron-fortified rice and indigenous vegetables from school gardens significantly improved their nutritional status. Enhanced knowledge, attitude and practices on gardening and nutrition were observed among parents. The integrated model evolved under normal conditions including existing human resource capacities of the Department of Education. Experience with the pilot implementation of the program underscored the important role of institutional mechanisms, partnership building, and communication support and capacity-building strategies.





# ✓ Establishment of Lighthouse schools

Action research sites

Serves as learning hub if the  
nutrition mode in region 4A



**GarNESupp**  
Integrated School Nutrition Model

- A lighthouse school (LS) is a designated focal point for decentralized and location-specific **action research site on integrated school nutrition.**
- Every LS will feature a **regular school feeding program, a well maintained/sustained bio intensive garden, and related school-based nutrition education activities.**



Division of Cavite: 28		Division of Batangas: 2	
City Division of Dasmariñas: 5		City Division of Tanauan: 1	
City Division of Imus: 3		City Division of Lipa: 1	
City Division of Bacoar: 3		City Division of Batangas: 2	
City Division of Cavite: 1		Division of Quezon: 2	
Division of Laguna: 2		City Division of Lucena: 1	
City Division of Sta. Rosa: 1		City Division of Tayabas: 1	
City Division of Binan: 1		Division of Rizal: 1	
City Division of Calamba: 1		City Division of Antipolo: 1	
City Division of San Pablo: 1		TOTAL: 58	



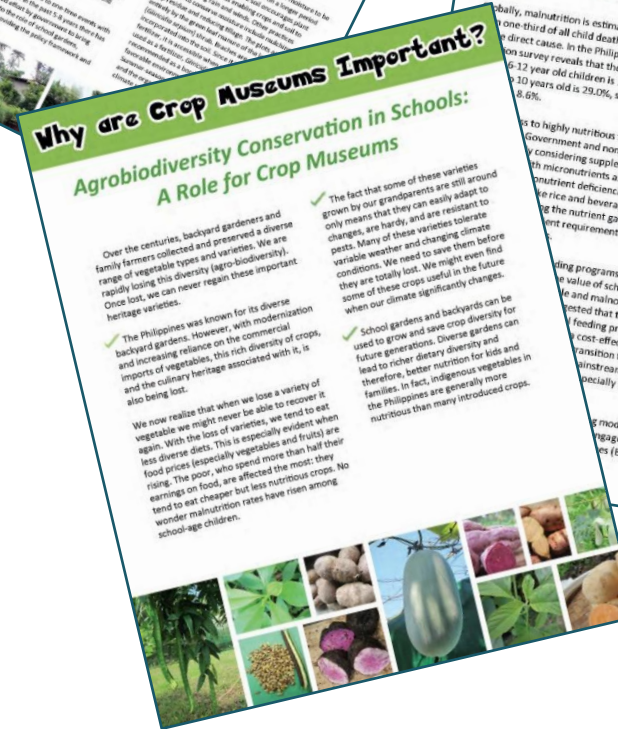
# ✓ Establishment of school crop museums

Decentralized nurseries  
for indigenous  
vegetables



School Division	LS	CM	School Division	LS	CM
Division of Cavite	28		Division of Batangas	2	111
City Division of Dasmaringas	5		City Division of Tanauan	1	10
City Division of Imus	3		City Division of Lipa	1	8
City Division of Bacoor	3		City Division of Batangas	1	8
City Division of Cavite	1		Division of Quezon	2	45
Division of Laguna	2	12	City Division of Lucena	1	3
City Division of Sta. Rosa	1	4	City Division of Tayabas	1	3
City Division of Binan	1	2	Division of Rizal	2	10
City Division of Calamba	1	3	City Division of Antipolo	1	3
City Division of San Pablo	1	7	GRAND TOTAL	58	229

# ✓ Development and dissemination of information, education and communication materials





# ✓ Evidence building

## Sample data: Utilization of garden produce

	Covered Date	Area, sqm	Types of Crops	Frequency of Harvests	Total Harvest, kg	% Harvest Used in SBFP	% Harvest school funded meals	% Harvest Distributed to Children	% Harvest SOLD
Julugan ES	August to Dec22	200	21	106	101.47	63.61%	22.47%	1.35%	12.57%
Sunny Brooke ES	July 7 to Dec7	200	22	105	354.88	38.15%	10.11%	0.34%	51.41%
Tinabunan ES	July to Dec27	200	29	227	252.71	23.05%	60.63%	0.99%	15.33%
Carlos Batino MES	Aug10 to Dec9	200	17	94	132.80	26.36%	49.92%	16.94%	6.78%
Upli ES	Jun30 to Nov21	400	25	121	318.65	6.21%	18.52%	5.02%	70.25%
GAMES	Jun3 to Dec8	450	22	139	253.72	9.32%	48.31%	12.14%	30.23%
Isidro Cuadra ES	Aug to Nov22	200	10	64	48.81	4.94%	95.06%	0.00%	0.00%



THANK YOU /  
SALAMAT PO