Mapping the Research and Development Agenda of Food Systems in the Philippines

Key messages from the discussions during the Experts' Consultation on the Philippine Food Systems
February 27, 2019 JJ Hall Y.C. James Yen Center, Silang Cavite

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WORKSHOP INFORMATION NOTE

Initiating a new food system research and innovation platform in the Philippines

Global food systems, including that of the Philippines, are changing fast as a consequence of changing lifestyles, consumer aspirations, and food supply systems. Penetration of fast foods, urbanization, supermarketization, and climate change remain to be the major drivers of food system change.

It is important to understand the current food system - particularly the interaction between its components and how these vary in different environments. These help to identify the leverage points for research and innovation to promote more sustainable food systems in the country.

There is a gap in the knowledge base of food system issues and critical leverage points in the Philippines. There is a need and opportunity to initiate food systems action research in the Philippines.

Key messages

1. There are research and current data on food and nutrition situation in the Philippines but the food system approach still needs to be integrated into the research agenda.
2. The household plays an essential role in ensuring food security.
3. Access to nutritious food is affected by the economic status of families.
4. Good governance is necessary for the implementation of food systems research and development programs.
5. Interventions on the Food Supply Chain, Food Environment, and Consumer Behavior significantly improve the food system.
6. There is a pressing need to create a comprehensive Road Map for the Philippine Food System to harmonize programs of agencies.
7. Promotion of Food, Health, and Nutrition Security should be achieved at all the levels of government and other sectors of society.

The Philippine food system is unsustainable - it contributes to increased inequity, amplified public health costs, and environmental degradation. Recognizing this phenomenon, the International Institute of Rural Reconstruction (IIRR) and the International Center for Tropical Agriculture (CIAT) co-organized an Experts Consultation on Food Systems titled, "Understanding the Philippine Food System for better Food Security & Nutrition" to open a platform for sharing and documenting concepts and experiences to clarify pre-requisites for sustainable food systems research and innovation.

The one-day consultation-workshop was held on February 27, 2019 at IIRR's Campus in Silang, Cavite. It generated important inputs from participants representing government and non-government agencies working on food and nutrition security.

To map the research and development agenda of Food Systems in the Philippines, it is essential to understand the existing context of research and development programs in the Philippine setting.

While there are efforts done in implementing food security and nutrition research and development programs by different agencies and institutions, there are challenges that remain evident. Taking the discourse to a more holistic level using the food system approach is integral. The unharmonized implementation of programs by different government agencies and institutions on food security exemplify the challenges. Also, there is still a need for these agencies and institutions to coordinate in drafting their outcome targets.

The beginning of the collaboration

"Unified effort and command to implement a program are needed for us to be successful."
Cecilio Adorna, Alcanz International LLC

The participation of key players in the food and nutrition sector of the country shows the growing interest in the field of food systems and sustainability. Fifty representatives from 10 government agencies, six academic institutions and international non-government organizations, as well as members of media engaged in conversations to:

- Characterize the nutrition situation in the Philippines and its current food system;
- Share, document, and analyze concepts and experiences on sustainable food systems research; and
- Identify tangible opportunities for food systems research and development.

The morning session included presentations and fora on the following topics:

Topic	Speaker
Global patterns of adolescent fruit, vegetable, carbonated soft drink, and fast food consumption	**Dr. Ty Beal** *Technical Specialist* *Global Alliance for Improved Nutrition*
Nutrition Situation and Food Environment Survey: 2015 data	**Dr. Imelda A. Agdeppa** *Assistant Scientist* *Food and Nutrition Research Institute, Department of Science and Technology*
Fill in the Nutrient Gap: Key Findings that has implications to Food Systems Programming	**Ms. Jutta Neitzel** *Head of Operations* *World Food Programme Philippines*
Drivers of Food Security in the Philippines: Challenges & Opportunities	**Dr. Domingo A. Angeles** *Chair* *Interdisciplinary Studies Center on Food and Nutrition Security, College of Agriculture and Food Sciences,* *University of the Philippines Los Baños*
Social Considerations towards Inclusive, Healthy and Sustainable Food Systems	**Mr. Shun-Nan Chiang** *Sociology PhD Candidate* *University of California* *Research Fellow, Southeast Asian Regional Center for Graduate Study and Research in Agriculture*
Food Systems framework for Improving Nutrition and Health	**Dr. Steff de Haan** *Agrobiodiversity and Food Systems Researcher* *International Center for Tropical Agriculture-Vietnam*

The afternoon session consisted of group discussions identifying the most pressing issues on the components of Food Systems. It concluded with the drafting of possible research and development programs.

The framework (Figure 1) below was used to unify the participants' understanding of food systems:

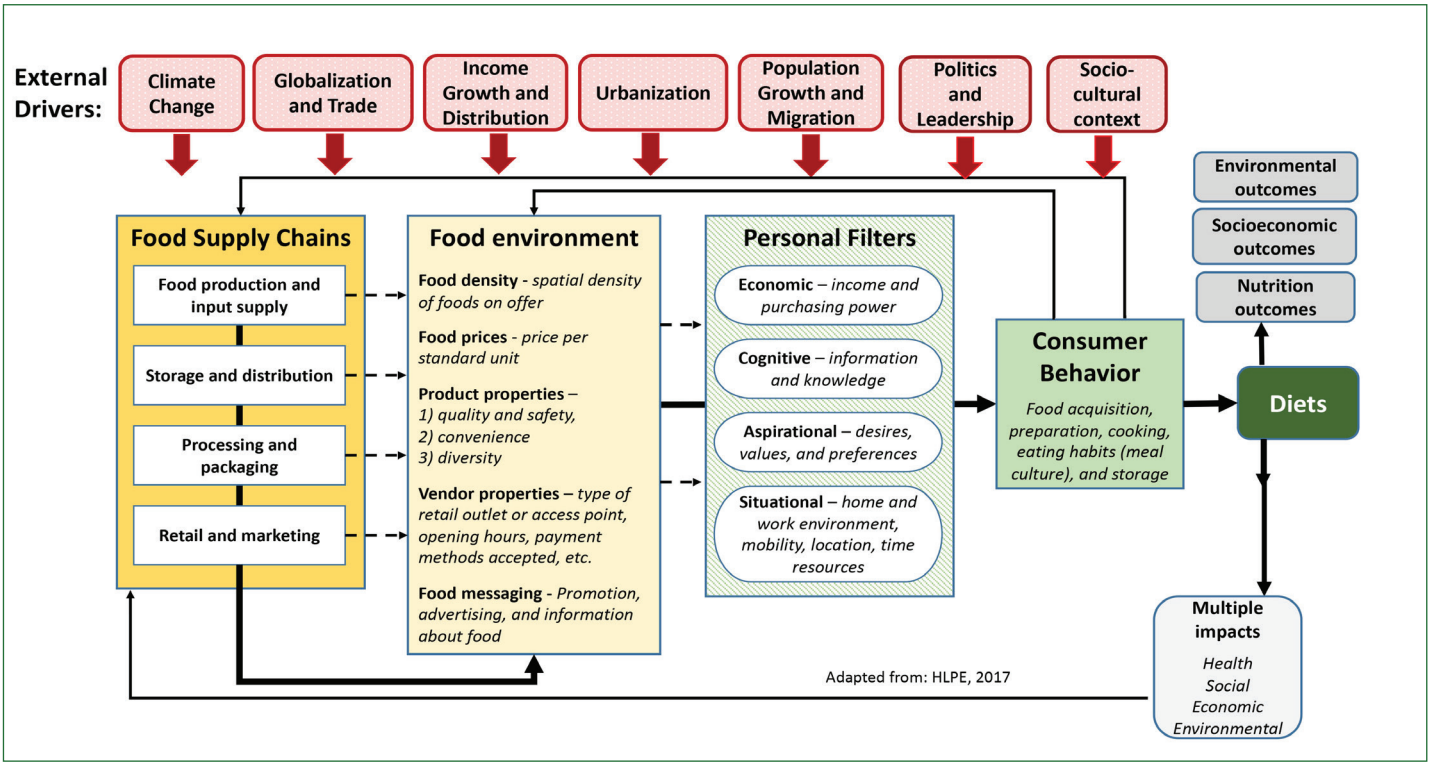

Figure 1. Food System Framework (Adapted from: HLPE, 2017)

This Information Note contains the key messages and a synthesis of the discussions on Food systems that transpired during the Experts' Consultation. It does not provide a complete presentation of Food Systems in the Philippines.

Food Systems in the Philippines

What we already know

A **food system** is composed of several linked components that interact with each other. These include food supply chains, food environments, consumer behavior, diets, and drivers. Thus, a wide variety of Food Systems and food environments can exist or co-exist at the local, national, regional, and global levels (HLPE, 2017).

1 ***There are research and current data on food and nutrition situation in the Philippines, however, the food system approach still needs to be integrated in research agenda.***

Looking at the bigger picture

The Food and Nutrition Research Institute (FNRI) spearheads nutrition-related research and is responsible for national nutrition survey in the country. The National Nutrition Survey (2015) shows high incidence of obesity, especially among children under five years old. At the same time, there has been a significant decrease in the consumption of fruits and vegetables.

Similarly, the World Food Program's (WFP) Fill in the Nutrient Gap (FNG) research, which used the Local Food Health and Nutrition Survey (LFNS), validated that Filipinos have food to eat but nutrient diversity is very low and the consumption of fruits dropped over the past decades. Meanwhile, fast food and carbonated drink consumption increased in the Philippines, according to the Global Alliance for Improved Nutrition (GAIN).

Interestingly, FNRI's study showed that there are substantial number of people, mostly those in the urban areas, who source out food from carinderias or food stalls and sari-sari stores that do not entirely serve nutritious food. It also indicated that while people in rural areas consume what

they produce, they still buy food from these establishments.

It was noted that sampling was based on census not on a more definite criteria (context-based). The survey did not look into other possible qualitative aspects of the study such as reasons why food stalls sell these kinds of food and what drives people to select their food preference.

There were also concerns about surveying with regards to security:

> *"There were constraints in the conduct of surveys because we did not want to raise suspicion (from food stall owners) that we are spying for the Bureau of Internal Revenue (BIR) on their sanitation practices because we are from the government. If we are to do the survey again, these are issues we need to resolve."*

The next step to continue with the research is to link the household survey with the food survey so that it becomes more inclusive.

The Department of Agriculture (DA) is also in the inception phase of implementing a National Food Consumption Quantification Study that aims to look at the consumption and food production of Filipinos, the growing demands on food, and the commodities that the country can produce. DA noted that the presentations have opened up ideas to add value to their study by including nutrition as an important aspect. This study is co-funded by the Food and Agriculture Organization (FAO).

With this, the Interdisciplinary Studies Center on Food and Nutrition Security (ISC-FaNS) of the University of the Philippines, Los Banos stated that while most of the programs of agencies are nutrition-sensitive, they may not be highlighted as such. The challenge is how to maintain the nutritional value of food from harvest to postharvest.

On a similar note, the International Rice Research Institute (IRRI) stated that not everyone has access to the necessary micronutrients. It was emphasized that the micronutrient access perspective be included in the discourse of food and nutrition.

The International Center of Tropical Agriculture (CIAT) encouraged the participants to use food systems as a new way to look about different issues since there is a growing shift from focusing on production to the consumer. In addition, it was stated that populations are very diverse and taking an average as a goal for the needs of the whole population may not be appropriate for specific actual needs of smaller communities.

2 ***The household plays an essential role in ensuring food security.***

"More interventions in the household is necessary"
– Jutta Neitzel, WFP-Philippines

Food production

FNRI's survey data shows that homegrown vegetables are not sufficient for the consumption of the family. According to World Food Program (WFP), "If there is higher production in the household levels, the expenditure for nutritious food can be reduced."

ISC-FaNS validated that a small piece of land is viable for the production of nutritious food, especially if the crops are diversified. Similarly, IIRR emphasized that in some cases, what can be done in a small piece of land may not be appropriately scaled up in a larger portion of land. While food prices are on the rise, small farms are managed intensively, and that smallholdings are viable if local food systems are used. Fortunately, the majority of Filipino farmers have relatively smaller land size where sustainable intensification may be applied.

Diversification of Food Intake

An important consideration raised by the DA is the "acceptance of the community" is diversifying food intake because of the multicultural nature of the country. DA stated, "We need to have a cultural change to introduce diversification."

With regards to the roles of the members of the household, WFP warned that it is "dangerous to individualize responsibility and just centralize the responsibility of food security to the mother" as is the case in most Filipino households. For adolescents, GAIN underscored that while education is necessary in changing their behaviors to diversify their diets, "sometimes giving them information is ineffective because they don't really care about their nutrition." GAIN proposes that it is important to "identify their values and what they care about beyond just educating in nutrition."

The National Nutrition Council (NNC) recognizes that policies on the micro and macro levels are necessary to ensure food self-sufficiency, however, "the challenge remains at the household and community levels." The link for the sustainability of food systems and food security needs to be understood to be able to address this issue.

3 ***Access to nutritious food is affected by economic status of families***

WFP presented that one third of households in the Philippines could not afford to buy nutritious diet. When an inquiry on the relationship of poverty to stunting was made, WFP stated that their FNG study looked into the different barriers to access nutritious food and the results showed that the economic status of families is still a big factor. WFP added, "While behavior is a big component, we want to make a strong point that economic capability is a factor."

ISC-FaNS added that according to the analysis in the global food security index, the main reason for inaccessibility is "affordability, which is tied up with livelihood, poverty, [and] income, coupled with increases of prices due to many other factors."

Aside from the economic factors, WFP also underscored that "cultural and social dimensions are also important considerations" and that "the shift (from economic to cultural and social) is going to be tremendous if we are going to look into accessibility."

4 ***Good governance is necessary in the implementation of food systems research and development programs.***

The Department of Agrarian Reform (DAR) remarked that it is important "to consider the political environment of our government because of the devolution of program implementation from the national government to the local government units (LGUs)." DAR proposed that the government has to do a policy study that reviews Republic Act 2160, which devolved extension services to the LGUs. As experienced by DAR, most local executives prioritize infrastructure projects over agriculture, which is seen as a barrier to moving forward with programs on food systems.

DA articulated otherwise stating that:

> *"What the government needs in the agriculture sector is to engage the development minds of the LGU because there are some leaders who are involved and interested."*

Engaging local governments was identified by Alcanz International LLC as a strategy to overcome the problems of devolution in the government system. It was stated that, "Once your LGU is committed, they'll bring you a heaven of outcomes."

WFP also urged to consider dialogue and to recognize the important roles of the mayors and barangay captains in identifying priority programs to be implemented for their constituency.

What is being done?

The DA shared their program titled, "Gulayan sa Palayan" and "Gulayan sa Barangay" done in partnership with the LGUs under the Philippine Rural Development Project (PRDP) as well as the Provincial Commodity Investment plan. Their experience with their project confirms that vegetables can be produced in 100 square meter land. DA is looking into making use of the existing tools that they have and to improve on these.

The integrated school nutrition project of IIRR, which leverages on Lighthouse Schools for evidence building and scaling out, has been mentioned as an exemplar in using schools as a platform for education on food and nutrition. This is also known as the Integrated School Nutrition Model (ISNM) or Gardening, Nutrition Education,

and Supplementary Feeding (GarNESupp). Acknowledging the relevance of indigenous varieties of food, elementary schools involved in this project have begun producing these in their gardens. This was seen as a model, which can be replicated in other areas. This is implemented in coordination with the Department of Education and the Department of Science and Technology - Food and Nutrition Research Institute (DOST-FNRI).

The FNRI also initiated a project with DA with regards to diversifying the production of nutritious food by identifying the different crops in the provinces that can be produced up to scale.

The NNC, on the other hand, recognize that the programs are supposed to be supported by the Council. However, it has limited budget as a secretariat.

5 ***Interventions done on the Food Supply Chain, Food Environment and Consumer Behavior will significantly improve the food system.***

What can still be done?

There is room for more interventions in the food system. This can be done in the food supply chain, food environment, and consumer behavior, and to look at different sites and scales because food systems vary in community and national levels.

Food Supply Chain

Agriculture is still seen as an important component in the food system. However, NNC stated that "the fact remains that the agriculture sector is still the most impoverished sector in the country, which needs to be addressed." Moreover, agricultural diversification is not incentivized because of the policy focus on rice self-sufficiency.

Emphasis was also given on the local knowledge as a basis for innovation in agriculture interventions. In addition, increased infrastructure support and the establishment of more agriculture and fishery schools that hopes to involve the younger generation are needed to sustain these sectors.

Food Environment

One intervention posited is through identifying the nutritional value of produced food and match this to nutritional needs of the population. At the same time, a dietary survey among school-age children and setting up policies and regulations on advertisements on unhealthy food must be done.

With regards to regulating commercial food advertisements, it was proposed that instead of imposing more taxes on the private sector, dialogue can be used to achieve better agreements in the production of food advertisements that promote health and nutrition.

Creating dietary and nutritional guidelines that do not just focus on nutrition, but also considers sustainability, was also seen to mitigate the challenge of fitting the dietary needs of communities based on their environmental contexts. The approach should not be "one nutrient, one solution." Rather, the interaction among nutrients should always be considered to make it more holistic.

Consumer Behavior

Education is identified as a relevant solution to affect change in consumer behavior. The integration of food and nutrition education especially in the K-12 Program of the Department of Education can improve the eating habits or meal culture of children and young adults. This can be done in Grades 11 and 12 in the agriculture strand. Capability-building for teachers is also necessary for them to be equipped with technical skills.

6 ***There is a pressing need to create a Comprehensive Road Map for the Philippine Food System to harmonize programs of agencies.***

It was observed that while food security is interdisciplinary and involves multi-agency participation, "No single agency of the government is leading the work on food security." The Department of Agriculture was proposed to head this agency; if not, be the coordinating body.

The Interdisciplinary Studies Center on Food Security of the University of the Philippines Los Banos can be considered as a model as it is doing interdisciplinary research and development programs as well as capacity-building.

However, the proposal to create a "National Food Security Council" was questioned since there are already so many committees and councils in the country. Perhaps what should be answered is, "How much work have we done?" With this, WFP remarked that "while there are great concepts, the practice is lacking behind."

In view of this, a comprehensive Road Map to harmonize the programs of agencies following a food system framework, which is inclusive was proposed. This Road Map should be consistent with the Philippine Development Plan as well as Ambisyon Natin 2040. It was stated that the Philippine Plan of Action for Nutrition (PPAN) can be a good starting point but this should be made into a form of a Road Map to include other stakeholder agencies.

LGUs are to be engaged in the implementation of these programs since they have a stake in the development of their areas of responsibility. This can be achieved by having a cascading program from the national to the local governments.

7 ***Promotion of Food, Health and Nutrition Security should be achieved at all the levels of government and other sectors of the society.***

One challenge posed is "how to motivate non-nutrition colleagues to include nutrition outcomes in their research and development programs." It was deemed necessary that at the level of agencies, nutrition should also be considered in drafting and implementing plans. It was also mentioned that the agencies already have their own modalities and that dissemination and promotion of programs is still lacking.

Communication of good practices and successful programs is also important, especially those that are interdisciplinary, to provide basis to other agencies for possible adoption or replication even in terms of methodologies.

Research and Development Agenda

The participants of the Experts' Consultation were grouped based on themes of the Philippine Food System. These groups identified specific research topics/projects that may be implemented to further understand the Philippine context and to aide in policy formations. The table on the next page provides a succint summary of ideas.

Group 1: External Drivers Influencing Philippine Food Systems

"Politics and leadership, income, globalization and trade as well as climate change affect the local food systems"

Pressing Issues/Concerns	Ideas for Research Development
• Politics and leadership (different mandate of agencies; lack of proper transition of existing programs; changes in leadership/ priorities) • Globalization, tariffs on food and trade agreements; how much to export and import (imported fruits are cheaper than local products) • Changes on purchasing power of consumers • Impacts of climate change such as shocks, typhoon, drought	1. Analyzing consumer behavior on food choices/food preferences by socio-economic group/ age groups 2. Analyzing footprints of the Food System (carbon/water footprints, land use of the current food systems) 3. Determining impacts of climate change on Food System 4. Scoping and comprehensive study on Food System policy

Group 2: Issues in the Food Supply Chain Influencing Local Food System

"Interagency involvement through agency consultation from conceptualization up until the implementation of programs should be considered."

Pressing Issues/Concerns	Ideas for Research Development
• Lack of opportunities for integrating nutrition into inclusive value chains • Limited understanding of comprehensive supply chain issues that go beyond production (distribution, marketing, nutrition, environmental impacts, etc.) • Postharvest losses and food waste, implications for supply chain efficiency • Lack of infrastructure support services for the improvement of distribution systems	1. Testing nutrition sensitive value chain (NSVC) approaches into existing and upcoming Value Chain programs 2. Geographical mapping of production, access and consumption (food flow analysis) 3. Study on food purchasing behavior in relation to age and contrasting living / food environments 4. Identification of food waste among food service, food processing, and retail sector 5. Assessment of household food waste by location (rural, peri-urban, urban) and economic strata

Group 3: Food Environment Issues of Philippine Food Systems

"Accessibility of food is within the environment. It influences consumer behavior."

Pressing Issues/Concerns	Ideas for Research Development
• Price difference of highly processed food (e.g. instant noodles) compared to healthy food like vegetables • Low level of consumer education or food literacy especially on healthy food choices • Limited information about the nutritional quality of foods on products • Healthy food options are often less accessible compared to unhealthy ones • Upfront advertisement and marketing of fast food	1. Understanding consumer behavior and food choices research (by strata) 2. Assess positive nudging and easy-to-understand options to represent the nutritional content of packaged and fresh foods 3. Study on food purchasing behavior in relation to age and contrasting living / food environments 4. Characterization of food environments at primary schools, around school and at home 5. Low level of consumer education or food literacy especially on healthy food choices

Group 4: Diets and Consumer Behavior Issues of Philippine Food Systems

"There should be different strategies for food and nutrition. Community food production strategies can be developed."

Pressing Issues/Concerns	Ideas for Research Development
• Poor nutrition knowledge affecting dietary practices of pregnant women (especially adolescent pregnant women) • Lack of diverse/nutritious complementary food option • Dietary practices of pre-school and school aged children leading to malnutrition • Limited knowledge of link between agrobiodiversity, dietary diversity, and nutrition	1. Baseline study on dietary patterns and determinants of adolescent pregnant women's diet (pre to postpartum) 2. Baseline study on dietary patterns of school-aged children 3. Enrichment and integration of food & nutrition education in primary school curriculum 4. Product development: complementary foods for children aged 6-23 months using indigenous ingredients and knowledge 5. Inclusion of different indicators that can highlight the role of agrobiodiversity in dietary diversity and nutrition.

PARTICIPANTS	
Government Agencies	
National Nutrition Council (NNC)	***Department of Social Welfare and Development***
Strawberry Alberto, *Nutrition Officer II*	Ma. Eleonor Leal, *Nutritionist- Dietitian III, Supplementary Feeding Program*
Regie Guillen, *Nutrition Officer*	
Department of Education	
Magdalene Portia Cariaga, *Senior Education Program Specialist, School Health Division (SHD)*	Estrela Hernando, *Teacher*
Ann Quizon, *Assistant Chief, SHD*	Marites Diesta, *Teacher*
Corazon Dumlao, *Chief, SHD*	Aiza Rollan, *Teacher*
Flerida Panganiban, *Master Teacher*	
Bureau of Fisheries and Aquatic Resources (BFAR)	***Department of Agriculture, Systems-Wide Climate Change Office (DA-SWCCO)***
Madeleine Manapat, *Aqua culturist, Post-harvest Unit*	U-Nichols A. Manalo, *Director*
Genile Roselle Pasumbal, *Post-harvest Unit*	Perla Baltazar, *Technical Staff*
Iluminada Cabacaba, *Market Specialist II*	
Department of Agriculture – PRDP	***Department of Agriculture – RFO 2***
Ma. Susana G. Perez, *Project Development Officer*	Rogelio Matalang, *President, PFRB*
Food and Nutrition Research Institute (FNRI)	
Imelda Agdeppa, *Assistant Scientist*	
Academe	
De La Salle University, Food and Water Institute	***University of the Philippines Los Baños***
Emmanuel Garcia, *Director*	Domingo Angeles, *Professor*
Institute of Human Nutrition and Food, University of the Philippines-Los Baños (IHNF-UPLB)	***Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA)***
Liela Africa, *Director*	Bessie Burgos, *Program Head, Research and Development Department (RDD)* Shu-Nan Chiang, *PhD Candidate in Sociology, Research Fellow*
Benguet State University	***Visayas State University (VSU)***
Gretchen Shagami Hudson, *Director, Research and Extension Publication Office*	Heremerose E. Matutes, *Head, Research, Development & Extension Unit* Ruth C. Amodia, *Head, Terrestrial Ecosystems Division*
International Non-Government Organizations	
Food and Agriculture Organization (FAO)	
Maria Cecilia Pastores, *Food and Nutrition Security Specialist*	Suzette Simondac, *National Consultant*
Alcanz International LLC	
Cecilio Adorna, *Senior Consultant*	John Estadilla, *Project Assistant*
World Wildlife Fund (WWF)	
Melody Melo-Rijk, *Project Manager, The Sustainable Diner*	Katherine Susara, *Sustainable Business Intern*
International Rice Research Institute (IRRI)	***International Potato Center (CIP)***
Cecilia C. Santos-Acuin, *Senior Scientist-Nutrition*	Arma Bertuso, *Senior Research Associate*
World Food Programme (WFP)	
Jutta Neitzel, *Head of Operations* Martin Parreno, *National Program Officer (Nutrition)*	Corazon Barba, *Nutrition Consultant*
Media	
Johnny Goloyugo	*Business Mirror*
Rebecca M. Velasquez	*PMC*
Ruel Francisco	*Philippine Information Agency Cavite*
Reyand Lopez	*Cavite Times*
Allan Francisco	*PTV 4*
Rommel Tagbas	*PTV 4*
Esmeraldo Narte, Jr.	*PTV 4*
Kate Celajes	*PTV 4*

The Organizing Team

The Experts' Consultation on "Understanding the Philippine Food System for better Food Security & Nutrition" was initiated and organized by the International Center for Tropical Agriculture (CIAT) and the International Institute of Rural Reconstruction (IIRR) with the following members:

International Center for Tropical Agriculture (CIAT)
Stef de Haan, *Agrobiodiversity and Food Systems Researcher*
James Leyte, *Senior Research Associate*
Ricardo Hernandez, *Agri-Food Economist*

International International Institute of Rural Reconstruction (IIRR)
Julian Gonsalves, *Senior Adviser*
Edward Reed, *Ex Official*
Emily Oro, *Country Director*
Irish Baguilat, *Applied Learning Manager*
Shiela Anunciado, *Agriculture Officer*
Michelle Calica, *Project Coordinator*
Kirstein Itliong, *Nutrition Officer*
Giulia Soria, *Communications Specialist*
Gretchen Shagami Hudson, *Documenter*
Christy Tacugue, *Program Associate, Food Security and Resilient Livelihoods*
Joanna Dalusag, *Program Associate, Food Security and Resilient Livelihoods*

This Information Note was written and packaged by:
Gretchen Shagami Hudson and Giulia Erika Soria

International International Institute of Rural Reconstruction (IIRR)

IIRR is a research, educational and community development organization focused on empowerment, innovation and transformation to address rural poverty. IIRR currently operates in eight developing countries: Cambodia, Ethiopia, Kenya, Myanmar, Philippines, South Sudan, Uganda and Zimbabwe. Each year through training, study programs, south-south exchange, technical support, coaching and projects partnership, we influence over 100,000 people to become agents of learning and advocates for change in their communities.

Km. 39 Aguinaldo Highway, IIRR Y.C. James Yen Center, Biga 2, Silang, Cavite 4118, Philippines
Phone: +63 46 419 8600 to 04
Email: asiaregion@iirr.org
Website: https://iirr.org

International Center for Tropical Agriculture (CIAT)

CIAT works in collaboration with hundreds of partners to help developing countries make farming more competitive, profitable, and resilient through smarter, more sustainable natural resource management. CIAT helps policymakers, scientists, and farmers respond to some of the most pressing challenges of our time, including food insecurity and malnutrition, climate change, and environmental degradation. Our global research contributes to several of the United Nations' Sustainable Development Goals, and cuts across four key themes: big data, climate-smart agriculture, ecosystem action, and sustainable food systems.

International Center for Tropical Agriculture
Philippines Country Office
c/o UPLB Foundation Inc., UPLB, College, Laguna 4030
Contact: Mylene Aquino, Country Administrative Officer
Phone: +63 49 5010581
Email: mylene.aquino@CGIAR.ORG
Website: https://ciat.cgiar.org

Further Materials

Reference materials such as policy notes, reports and primers on the Food System were distributed to the participants. These include topics on mitigating agricultural emissions, sustainable food systems, strengthening sector policies for food security and others. These were made available through USB copies and accessible at https://drive.google.com/open?id=1T4C4Olo09_giVXNYA_svFK98HmaP2k-M.