From "Food Security" to "Food and Nutrition Security"

How to Rethink the Linkages Between Malnutrition and the Food System?

Shun-Nan Chiang
PhD Candidate, Department of Sociology, University of California, Santa Cruz
SEARCA Visiting Research Fellow
RIFA Fellow (University of California Research and Innovation Fellowship for Agriculture)

Closing Thoughts

From Hunger to Malnutrition

Nutrition-Sensitive Agriculture

Deep Linkages Between Malnutrition and the Food System

Food Security VS Nutrition Security

Maraming Salamat!
Thank you!

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Deep Linkages Between Malnutrition and the Food System
Closing Thoughts

Closing Example: School feeding program

Some Closing Thoughts
- Multi-disciplinary collaboration
- What kinds of food system & what kinds of dietary knowledge
- The idea of “diversity”
- Culture matters even more now, but “culture” is not a constant
From Hunger to Malnutrition

- MDG → SDG
- Hunger VS. Malnutrition
- Why does the paradigm shift?
  1. Nutrition transition & Double burden of malnutrition in developing countries
  2. Advances in nutritional science
  3. Agricultural research on global health-related issues (Brooks 2010)
Target 1.C: Halve, between 1990 and 2015, the proportion of people who suffer from hunger.

1.8 Prevalence of underweight children under-five years of age.

1.9 Proportion of population below minimum level of dietary energy consumption.

2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

2.1.1 (Calorie Deficiency) Prevalence of undernourishment.

2.1.2 (Food Insecurity) Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES).

2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

2.2.1 (Children under 5, chronic undernutrition) Prevalence of stunting (height for age < -2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age.

2.2.2 (Children under 5, overweight) Prevalence of overnutrition (weight for height > +2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age.

Other proposed indicators: micronutrient deficiencies, dietary diversity, women's nutrition status.
ERADICATE EXTREME POVERTY AND HUNGER
GOAL 2

END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

SUSTAINABLE DEVELOPMENT GOALS
More at sustainabledevelopment.un.org/sdgsproposal
Target 1.C: Halve, between 1990 and 2015, the proportion of people who suffer from hunger

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Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight).

Other proposed indicators:
micronutrient deficiency, dietary diversity, women's nutrition status
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Other proposed indicators: micronutrient deficiency, dietary diversity, women's nutrition status
Hunger VS. Malnutrition

Calorie deficiency

Multiple forms of malnutrition

Poverty → Hunger

Poverty ↔ Malnutrition
e.g. the first 1000 days

Food System
Dietary Health

Interactions between different forms of malnutrition

- Vitamin-A Fortified Sugar as "Healthy Food" (Yates-Doerr 2010)
- Child undernutrition → adult obesity (ASEAN/ UNICEF/WHO 2016)
- Access to urban market: reduce child stunting but increase the risk of overweight (Derrouzet-Nardi & Masters 2015)

Nutrition-Sensitive Agriculture
Calorie deficiency

Multiple forms of malnutrition
Global statistics for the nutritional status and behavioural measures adopted as global targets for maternal, infant and young child nutrition (MIYCN) and diet-related NCDs

<table>
<thead>
<tr>
<th>Condition</th>
<th>Men</th>
<th>Women</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium intake</td>
<td>947 million</td>
<td>982 million</td>
<td>6%</td>
</tr>
<tr>
<td>Childhood overweight</td>
<td>204 million</td>
<td>218 million</td>
<td>8%</td>
</tr>
<tr>
<td>Childhood wasting</td>
<td>266 million</td>
<td>375 million</td>
<td>11%</td>
</tr>
<tr>
<td>Low birth weight</td>
<td>597 million</td>
<td>529 million</td>
<td>20%</td>
</tr>
<tr>
<td>Childhood stunting</td>
<td>1,929 million</td>
<td>613 million</td>
<td>23%</td>
</tr>
<tr>
<td>Adult overweight</td>
<td>32%</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>Adult anaemia</td>
<td>38%</td>
<td>39%</td>
<td></td>
</tr>
<tr>
<td>Adult diabetes</td>
<td>422 million</td>
<td></td>
<td></td>
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<tr>
<td>Adult obesity</td>
<td>641 million</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult hypertension</td>
<td>1,130 million</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source and notes: Global Nutrition Report 2017
Poverty → Hunger

Poverty ↔ Malnutrition

e.g. the first 1000 days
Interactions between different forms of malnutrition

- Vitamin-A Fortified Sugar as "Healthy Food" (Yates-Doerr 2015)

- Child undernutrition ==> adult obesity (ASEAN/UNICEF/WHO (2016))

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Food System \rightarrow \text{Nutrition-Sensitive Agriculture} \rightarrow \text{Dietary Health}
Hunger VS. Malnutrition

- Calorie deficiency
- Multiple forms of malnutrition
  - Food System
  - Dietary Health
- Nutrition-Sensitive Agriculture
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Why does the paradigm shift?

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Why does the paradigm shift?
1. Nutrition transition & Double burden of malnutrition in developing countries
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3. Agricultural research on global health-related issues (Brinks 2010)
Nutrition-Sensitive Agriculture
Global Trend

FAO's Efforts

Many scholarly literatures

NGOs and Coalitions
FAO's Efforts

FAO: to mainstream nutrition by including it in each of its five strategic objectives and “maximiz[ing] the impact of food and agricultural systems on nutrition.”
E-learning Centre

E-learning to meet the needs of agriculture and food security professionals

Nutrition and Food Systems

Learn about:

- Basic concepts of Nutrition, Food security and Livelihoods
- How to facilitate joint planning for nutrition across sectors
- What methodologies and indicators you can use for nutrition assessment
- How to improve availability, quality and use of food composition data
FAO: to mainstream nutrition by including it in each of its five strategic objectives and “maximiz[ing] the impact of food and agricultural systems on nutrition.”
Lesson 5  A conducive international environment for nutrition

Initiatives and commitments for addressing malnutrition

Do you know how many initiatives and commitments have been undertaken in the recent years?

Roll the mouse over each initiative for more information.

- High Level Task Force on Global Food and Nutrition Security (HLTF)
- World Summit on Food Security
- The REACH partnership
- Reform of the Committee for World Food Security (CFS)
- L'Aquila Summit
- The Scaling Up Nutrition (SUN) Movement
- Zero Hunger Challenge
- Global Panel on Agriculture and Food Systems
- Nutrition for Growth
- Second International Conference on Nutrition (ICN2)
- World Health Assembly (WHA) Global Nutrition and NCDs Targets
- The Global Nutrition Report
- The Global Nutrition Agenda
- Nutrition in the Committee on World Food Security (CFS)
- Sustainable Development Goals (SDGs)
- UN Standing Committee on Nutrition restructuring
- Expo Milan 2015
- Decade of Action on Nutrition

Member states make official commitments.

NGOs and Coalitions
Diversified and Integrated Farming Systems (DIFS): Philippine Experiences for Improved Livelihood and Nutrition

Lucille Elna Parreno-de Guzman1*, Oscar B. Zamora1,2 and Dora Fe H. Bernard3

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2 Office of the Vice-Chancellor for Academic Affairs, University of the Philippines Los Baños, College, Laguna 4031 Philippines
3 Institute of Biological Sciences, College of Arts and Sciences, University of the Philippines Los Baños, College, Laguna 4031 Philippines

The Philippines is predominantly an agricultural country composed of small farms with a mean area of 2.0 ha per farm. Widespread poverty continues to be a big problem in the country and Filipino adults and children continue to be afflicted by various forms of malnutrition, such as underweight, underheight, and wasting. A viable agricultural solution to this problem is the practice of diversified and integrated farming systems (DIFS).

For centuries, farming communities have painstakingly developed resilient and bountiful agricultural systems based on biodiversity and on their knowledge of how to work with them in equally complex biophysical and socio-cultural settings. One of the most stable, productive and profitable diversified cropping systems in the Philippines is the coconut-based multi-storey system developed and practiced in Cavité. Other examples are organic farming as practiced by small-scale farmers, the bio-intensive gardening promoted by the International Institute of Rural Reconstruction in Cavité, the staking agricultural land technology promoted by the Mindanao Baptist Rural Life Center in Davao del Sur, the vegetable-agroforestry systems of the World Agroforestry Center in Bulacan, and the complex upland food-production systems of different indigenous peoples’ communities all over the country.

In all these examples, the message is clear: farmers have provided stability and sustainability of the agricultural production system, and hence, food security through the utilization of functional diversity in their farms and farming systems. Research has shown that compared with monocultures, polycultures are more productive, utilize natural resources and photosynthetically active radiation more efficiently, resist pests epidemics better, produce more varied and nutritious foods, contribute more to economic stability, social equality, and provide farmers’ direct participation in decision-making. Thus, although small-scale tropical farmers have generally been confronted to farming in low quality, marginal and fragile soils with little institutional support, their systems provide valuable information for the development of sustainable agricultural production systems.

Key words: diversified and integrated farming, nutrition-sensitive agriculture

Introduction

The Philippines is an archipelago composed of 7,107 islands, of which only about 3,144 are named. Situated in Southeast Asia, with coordinates of 13° N, 122° E, the country is bordered by the waters of the Visayas Channel north up, Sulu and Celebes Seas south down, the Pacific Ocean to the east, and South China Sea to the west (Fig. 1). It has a land area of 300,000 km², 298,170 km² of which is land and 1,830 km² is water.

Received: September 15, 2014; Accepted: January 30, 2015

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CASE STUDY

Leveraging agriculture to improve nutrition in the Philippines

Oscar B. Zamora1, Lucille Elna P. de Guzman1, Sue Liza C. Saguiguit2, Ma. Theresa M. Talafera1, Normahita P. Gaudencio1

Received: 30 July 2013; Accepted: 2 October 2013; Published online: 20 November 2013
© Springer Science+Business Media Dordrecht and International Society for Plant Pathology 2013

Abstract The typical Filipino diet mainly consists of rice, fish and vegetables, with rice being the greatest source of calories. The consumption of a mackerel, Maui and tuna, as rice substitutes or supplements, and vegetables and fruits has generally declined, while the consumption of fats, oils and meats has increased. Stunting is the most prevalent form of malnutrition among Filipinos. Vitamin A Deficiency, iodine Deficiency Disorder, and Iron Deficiency Anemia remain public health problems for children and pregnant and lactating women. The link between nutrition and agriculture in the Philippines has focused on leveraging agriculture to improve nutrition. The programs that had been initiated by the government, NGOs/CSOs or private sector were conceptualized and implemented before the elements of a nutrition-sensitive agriculture framework were identified. These programs were implemented to address food production and the nutritional needs of individuals, families, and communities only with reference to nutrition security. Many of these programs have been successful as they implemented best practices that could be applied to improve a superior approach that optimizes the agriculture-nutrition nexus. This study identified these best practices or elements of success. The elements that have been noted as reasons for the success of some of these programs are: presence of strong political will and enabling policy environment; forging of new forms of partnerships; strategic collaborations; coordination and structuring; exploring the best that science and technology could offer; democratizing community participation; strong capacity building component and access to reliable technical expertise; knowledge and sensibility to local cultures, beliefs and practices; professionalized promotion and ‘messaging’; use of catchy terms for easy recall; availability of sustainable funding; use of the life cycle approach in nutrition; holistic community nutrition perspective; practice and promotion of biodiversity-based agricultural production systems; and control of the means of production.

Keywords Nutrition-sensitive agriculture; Nutrition security; Policy environment; Food production; Home gardens

Introduction

In the Philippines, there has been a number of programs on nutrition and sustainable/organic agriculture that were implemented at different scales, from small communities to the national level. These were implemented by government agencies and non-government organizations/civil society organizations (NGOs/CSOs). The programs, which are the basis of this paper, were all implemented primarily to address food production and the nutritional needs of individuals, families and communities with only cursory reference to nutrition security. Hence, when the programs described in this paper were conceptualized and implemented, the nutrition and agriculture nexus had not yet been conceptualized, and even the stated objectives of some of the projects were not or at best only indirectly related to nutrition-sensitive agriculture.

Fortunately, there were a number of nutrition-sensitive agriculture-related programs in the Philippines that had achieved some level of success in improving the quantity and diversity of food intake and nutritional status of children and their families. Initially, 19 programs were identified to provide a general description of the existing nutrition and agriculture programs in the country. Of this number, only 9 were considered and their facilitating factors and ‘good practices’ expounded in the hope that such information will
Global Trend

FAO's Efforts

FAO: to mainstream nutrition by including it in each of its five strategic objectives and "maximizing the impact of food and agricultural systems on nutrition."

NGOs and Coalitions

Many scholarly literatures
Some Basic Ideas

Nutrition- Specific VS. Sensitive

From Quantity to Quality
- From "yield" to "nutritional values"
- From "hunger" to "hidden hunger"

[Agriculture] has never made adequate and balanced nutrient output an explicit goal of its production systems. "... The nutrition and health communities have never considered using agriculture as a primary tool in their programmes. ... A new paradigm for agriculture and nutrition is now needed." (Welch and Robin 1999)

From Production to Food System
Nutrition- Specific VS. Sensitive

Figure 2: Conceptual framework of malnutrition

- **Intergenerational consequences**
  - Non-communicable diseases, reproductive health, premature mortality, disability, social isolation
  - Mortality, morbidity from infectious diseases, disability
  - Sub-optimal adult height, cognitive ability, economic/work productivity, reproductive outcomes

**Immediate causes**
- Overnutrition/unbalanced intake
- Maternal and child undernutrition
- Physical inactivity
- Poor dietary intake (quality and/or quantity)
- Disease

**Underlying causes at household/family level**
- Sedentary lifestyle and behaviours
- Insufficient access to healthy FOODS
- Inadequate CARE and FEEDING practices and behaviours
- Poor water, sanitation, food safety and inadequate HEALTH services

**Basic causes at social level**
- Access to natural capital (land, water, clean air), markets, education, support networks, social protection, infrastructure and transportation, employment, income, technology, information, marketing
- Culture and social norms; gender; fiscal and trade policies; legislation and regulations; agriculture; food systems; urbanization; climate change; pollution; political stability and security

Figure 2: Conceptual framework of malnutrition

Intergenerational consequences

Consequences

Non-communicable diseases, reproductive health, premature mortality, disability, social isolation

Mortality, morbidity from infectious diseases, disability

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Culture and social norms; gender; fiscal and trade policies; legislation and regulations; agriculture; food systems; urbanization; climate change; pollution; political stability and security

Nutrition-specific actions

Nutrition-sensitive actions

From Quantity to Quality

- From "yield" to "nutritional values"
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<table>
<thead>
<tr>
<th>Food production</th>
<th>Diversification and sustainable intensification of agricultural production</th>
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<tbody>
<tr>
<td></td>
<td>Nutrition-sensitive livestock and fisheries</td>
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<td>Biodiversity for food and nutrition</td>
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<td>Biofortification</td>
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<td>Urban and peri-urban agriculture</td>
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<td>Food handling, storage and processing</td>
<td>Nutrition-sensitive post-harvest handling, storage and processing</td>
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<td>Food fortification</td>
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<td>Food trade and marketing</td>
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<tr>
<td>Trade for nutrition</td>
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<td>Food marketing and advertising practices</td>
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<td>Food price policies for promoting healthy diets</td>
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<td>Food labelling</td>
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<td>Consumer demand, food preparation and preferences</td>
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<td>--------------------------------------------------</td>
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<tr>
<td>Nutrition education and behaviour change communication</td>
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<td>Income generation for nutrition</td>
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<td>Nutrition-sensitive social protection</td>
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<td>School food and nutrition</td>
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<td>Nutrition-sensitive humanitarian food assistance</td>
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<td>Cross-cutting issues</td>
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<td>------------------------------------------</td>
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<tr>
<td>Nutrition-sensitive value chains</td>
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<td>Women’s empowerment and gender equality</td>
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<td>Food loss and waste: prevention, reduction and management</td>
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From Production to Food System
Nutrition-Sensitive Agriculture
Food Security VS. Nutrition Security

Nutrition Security
- Adequate diet
- Access to food
- Food security
- Hunger

Food Security
- Food diversify
- Access to food
- Food security
- Food availability

Preliminary Thoughts
- Food diversity
- Address market practices
- Redefine "food utilization"
Nutrition Security

Basic Aspects of Nutrition Security

- Access to adequate food
- Care and feeding practices
- Sanitation and health service

Conceptual Framework of the Nutritional Status at Household Level

Proposed Definition of "Food and Nutrition Security"

“Food and nutrition security exists when all people at all times have physical, social and economic access to food, which is consumed in sufficient quantity and quality to meet their dietary needs and food preferences, and is supported by an environment of adequate sanitation, health services and care, allowing for a healthy and active life.”

(Dr Marzella Wüstefeld, UNSCN Meeting 2013)
Basic Aspects of Nutrition Security

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Conceptual Framework of the Nutritional Status at Household Level

Source: Weingärtner 2005


Conceptual Framework of the Nutritional Status at Household Level

Food Security
Nutrition Security

Food intake

Health status

Food access
Caring capacity
Health services
Environmental conditions

Production
Purchase
Donation

manifestation
immediate causes
underlying causes

Source: Weingärtner 2005
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(Dr Marzella Wüstefeld, UNSCN Meeting 2013)
Food Security

- Paradigm of Hunger
- Focus on "quantity" of food
- "Access" is the most important aspect
- Updated Version of "Food and Nutrition Security"


- food availability (sufficient quantities of food available on a consistent basis)
- food access (sufficient resources to obtain appropriate foods for a nutritious diet)
- stability of supply and access,
- food use (appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation)
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Source: Gross et al. 2000
Preliminary Thoughts

- Food Diversity
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- Redefine "food utilization"

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Food Security
VS.
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Nutrition Security

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Preliminary Thoughts
- Food Diversity
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Deep Linkages Between Malnutrition and the Food System

Systematic-Ecological perspective
1. Food System approach
2. Agro-biodiversity & human health
3. Externality: The interactions among the fields of agriculture, ecology, and human nutrition (Blizard et al., 2013)

Historical-Structural Perspective
- From Hunting-gathering to farming
- Industrial revolution
- From subsistence farming to commodity farming
  (mono-crop farming)
- Westernization of diet
- Other pathways
  - The price volatility of the global food market
  - Soil degradation caused by intensive agriculture
  - Nutrition-sensitive agriculture is only one particular phase of the nutrition-agriculture linkage over time

Cultural-Political perspective
Systematic-Ecological perspective

1. Food System approach

2. Agro-biodiversity & human health

3. Econutrition: The interactions among the fields of agriculture, ecology, and human nutrition. (Blasbalg et al. 2011)
Diversifying Food and Diets

Using Agricultural Biodiversity to Improve Nutrition and Health

Edited by Jessica Fanzo, Danny Hunter, Teresa Borelli and Federico Mattei
Loss of nutrients and biodiversity
Increased soil erosion

Agriculture
Poor management

Environmental degradation

Decreased labor productivity

Declining food productivity

Malnutrition, illness

Blasbalg et al. 2011
Systematic-Ecological perspective

1. Food System approach

2. Agro-biodiversity & human health

3. Econutrition: The interactions among the fields of agriculture, ecology, and human nutrition. (Blasbalg et al. 2011)
Historical-Structural Perspective

- From Hunting/gathering to farming
- Industrial revolution
- From subsistence farming to commodity farming (mono-crop farming)
- Westernization of diet
- Other pathways
  - The price volatility of the global food market
  - Soil degradation caused by intensive agriculture

Nutrition-sensitive agriculture is only one particular phase of the nutrition-agriculture linkage over time
Cultural-Political perspective

The Influence of Agricultural Policy-Making
- Foreign Food Aid
  - Food for Peace program of the USAID
  - In-kind donation and cash-based transfer
- Wheat Fortification Policy in Indonesia (Kimura 2013)
  Agricultural development
  VS. Nutritional assistance

Corporate Influence
- Food industry’s influence on the Governmental Dietary Guideline (U.S.)
- The coalition of supermarket and Food relief network, “the surplus food disposal chain” (U.S.) (Fisher 2017)
  Public-Private Partnership VS.
  The influence of food industry, especially transnational food corporations

Knowledge Politics of nutritional science
- Producers
  - Rationalization of the international system of food production
  - Genetic modification of plants
  - Economic rationalization

- Consumers
  - Individual responsibility for health
  - Dietary guidelines
  - World hunger

- Other ways of knowing/healthy eating
  - epistemes, ideology, culture
  - national dietary guidelines
  - world hunger
The Influence of Agricultural Policy-Making

- Foreign Food Aid
  - Food for Peace program of the USAID
  - In-kind donation and cash-based transfer

- Wheat Fortification Policy in Indonesia (Kimura 2013)

Agricultural development VS. Nutritional assistance
Corporate Influence

- Food Industry's influence on the Governmental Dietary Guideline (U.S.)
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Public-Private Partnership VS. The influence of food industry, especially transnational food corporations
Knowledge Politics of nutritional science

Reductive Perspective

Jessica Mudry
"quantification" of food
- culture
- economics
- taste
- culture
- history

Nutritional Reductivism

underlying principle in daily lives

Doing Nutrition Science Differently

Public nutrition

New Nutrition Science Project

Other ways of Knowing Healthy Eating

- Different medical systems and cultural practices about dietary health
- Valuing other dietary cultures and traditional knowledge
- Mindful eating

Moral Assumptions

Focus on individual responsibility

Extra burden for mothers

Discrimination for some social groups
Reductive Perspective

Jessica Mudry

“quantification” of food
- calorie
- nutrients

- taste
- culture
- history

Nutritional Reductivism

underlying principle in daily lives

Gyorgy Scrinis (2008)

Milk → Bone Fracture

Calcium → Bone Density

Nutrient → Bio-marker
Nutritional Reductivism

Gyorgy Scrinis (2008)

Milk → Bone Fracture

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underlying principle in daily lives
Jessica Mudry

“quantification” of food
  - calorie
  - nutrients

Disappear

- taste
- culture
- history
Moral Assumptions

Focus on individual responsibility

==> Extra burden for mothers

Discrimination for some social groups
Doing Nutrition Science Differently

Public nutrition
- Solutions within nutritional knowledge
  - among sectors of society
- Social Factors
- Population Nutrition
  - malnutrition
  - obesity
  - food insecurity

New Nutrition Science Project
- Nutrition-related Behavior
- Society
- Environment
- Economy
- Health
Other ways of Knowing Healthy Eating

- Different medical systems and cultural practices about dietary health
- Valuing other dietary cultures and traditional knowledge
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Cultural-Political perspective

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Knowledge Politics of nutritional science
- Productive Perspective
- Political Perspective

Moral Assumptions
- Focus on individual responsibility versus collective responsibility
- Precautionary principle, health
- Globalization, dietary culture and nutritional knowledge
- World systems
Deep Linkages Between Malnutrition and the Food System

Systematic-Ecological perspective
- 1. Food System approach
- 2. Agrobiodiversity & human health
- 3. Externality: The interactions among the fields of agriculture, ecology, and human nutrition (Biesalski et al. 2013)

Historical-Structural Perspective
- From Hunting/gathering to farming
- Industrial revolution
- From subsistence farming to commodity farming (mono-crop farming)
- Westernization of diet
- Other pathways
  - The price volatility of the global food market
  - Soil degradation caused by intensive agriculture

Cultural-Political perspective
- Nutrition-sensitive agriculture is only one particular phase of the nutrition-agriculture linkage over time
Closing Thoughts

Closing Example: School feeding program

- Home Grown School Meat Program
  - Buying food from communities
  - VWIP, Back to Basics Hunger Project
  - Linking School Gardening with School Feeding
  - “Low Income Student and Home Gardening Project”

- “Central Kitchen” Model
  - One central kitchen for all the schools
  - Broken hors d’oeuvres
  - Central Kitchen (University City)
  - “Gardens on Mall” project (by College Kitchen)

Some Closing Thoughts

- Multi-disciplinary collaboration
- What kinds of food system & what kinds of dietary knowledge
- The idea of “diversity”
- Culture matters even more now, but “culture” is not a constant
Closing Example: School feeding program

Home Grown School Meal Programs
- Buying food from communities
  - WFP, Brazil Zero Hunger Project ...
- Linking School Gardening with School Feeding
  - SEARCA School and Home Gardening Project

"Central Kitchen" Model
- One centralized kitchen for all the schools in one municipality
  - Central Kitchen, (Valenzuela City + Ateneo de Manila University)
- "Kusina ng Kalinga" project by Gawad Kalinga
Home Grown School Meal Programs

- Buying food from communities
  - WFP, Brazil Zero Hunger Project ...

- Linking School Gardening with School Feeding
  - SEARCA School and Home Gardening Project
"Central Kitchen" Model

- One centralized kitchen for all the schools in one municipality
  - Central Kitchen, (Valenzuela City + Ateneo de Manila University)
  - "Kusina ng Kalinga" project by Gawad Kalinga
HUNGER ENDS where CARING BEGINS

There are about 1.5M Filipino children who face the threat of not realizing their full potential - not growing to be as tall, as healthy, nor as bright as they can be - because they are suffering from hunger today as they grow up. The effects of hunger and poverty on children could become irreversible especially if we're not there for them NOW, when they need us the most.

Though the problem is massive, we believe that ending hunger is possible. But for our response to have a commensurate impact, we must CARE TOGETHER.

Kusina ng Kalinga
is where this caring together can begin.

CARE WITH US NOW:

**VOLUNTEER**
Join our kitchen crew in preparing the day's lunch meals. Pick a kitchen and sign up!

**GIVE**
It only takes P15 to sponsor a child's meal for a day or P3,300 for the whole year!

**BE A KkCHAMP**
Increase our impact by initiating your own activity. See how other champs did it.

**SHARE**
Inspire others to care with us by sharing Kusina ng Kalinga stalks and highlights.

This isn't just an ordinary lunchbox.
Closing Example: School feeding program

Home Grown School Meal Programs
- Buying food from communities
  - WFP, Brazil Zero Hunger Project...
- Linking School Gardening with School Feeding
  - SEARCA School and Home Gardening Project

"Central Kitchen" Model
- One centralized kitchen for all the schools in one municipality
  - Central Kitchen, (Valenzuela City + Ateneo de Manila University)
  - "Kusina ng Kalinga" project by Gawad Kalinga
Closing Thoughts

Closing Example: School feeding program

- Home Grown School Meal Programs
  - Raising food from communities
  - WFP, Biodiversity Project
  - Linking School Gardening with School Feeding
  - "Schools to Seeds" Agroecological Project

- "Central Kitchen" Model
  - One central kitchen for all the schools
  - Local ingredients
  - "Central Kitchen" (University City)
  - "Project to Reduce" (project by Central Kitchen)

Some Closing Thoughts

- Multi-disciplinary collaboration
- What kinds of food system & what kinds of dietary knowledge
- The idea of "diversity"
- Culture matters even more now, but "culture" is not a constant
Maraming Salamat! Thank you!

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