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# building a futureproof circular food system for metro manila

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# **Building a futureproof circular food system for Metro Manila**

A mapping exercise for the Hunger Project

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## **Executive Summary**

The current linear food system is exacerbating the hunger and malnutrition crisis in the Philippines. The country has a fragmented food system, one where poor planning and inadequate coordination have led to a considerable post-harvest loss. Expensive and low-quality food is what would reach consumers' tables, and yet there is a link between high food prices and undernutrition. Hunger is also another wicked problem that demands systems change because, for every peso spent on food via a linear system, Filipinos pay two pesos in health, environment, and economic costs.

If Filipinos are to get out of this vicious cycle, there is a need to transition to a circular food system.

This research attempts to determine where and how to begin by asking: What potential entry points can nutrition security stakeholders pursue to jumpstart the transition to a circular food system?

Our theory of change centers on mapping the current linear food system and exploring market-driven entry points for sustainable, long-term solutions. Through collective action, problem-owners and problem-solvers can (1) co-generate business models and prototypes, (2) nest these innovations within enabling national and local policies for nutrition security, and (3) identify funding sources from within government and/or private investors. Working together, these levers would unleash sustainable innovation that builds the foundations of a futureproof circular food system for Metro Manila.

# I. Background and rationale

## **The current linear food system is exacerbating the hunger and malnutrition crisis**

Even before the COVID-19 pandemic, the way most Filipinos consumed food in Metro Manila was no longer sustainable. A fragmented food system with poor planning and inadequate coordination have led to post-harvest loss of up to 50% of the food supply.<sup>1</sup> Expensive and low-quality food is what would reach consumers' tables with the inflation rate for meat and vegetables reaching 19.5% in January 2021.<sup>2</sup> The World Food Program estimates the link between high prices and undernutrition as 0.6% increase in child stunting prevalence for every 1% increase in the 3-year average price of rice.<sup>3</sup>

To support government, civil society organizations, businesses, schools, and individual citizens have initiated programs and activities such as pop-up markets and community pantries to meet pandemic-specific challenges.<sup>4</sup> These initiatives have helped ease hunger to 16% of Filipino families in November 2020 from a record-high 30.7% in September.<sup>5</sup> But hunger remains double the pre-pandemic rate. Organizers of community pantries and feeding programs have also observed donor and volunteer fatigue. With new variants emerging, the end of the pandemic is not coming soon enough. Nutrition security stakeholders have raised the need for market-driven interventions that are less dependent on donations, volunteers, and government.

Together with malnutrition, hunger is a wicked problem that demands systems change because for every peso spent on food via a linear system, Filipinos pay two pesos in health, environment, and economic costs.<sup>6</sup> If we are to get out of this vicious cycle, we need to transition to a circular food system. This research attempts to determine where and how to begin.

## **Prioritizing key target segments: pregnant women and children**

Nutrition security stakeholders have been advocating for the First 1000 Days Framework in addressing hunger and malnutrition. The days between a woman's pregnancy and her child's second birthday offer a unique window of opportunity to build healthier and more prosperous futures.<sup>7</sup> Even with the enactment of Republic Act 11148, a law dedicated to this framework, the Philippines still struggles to provide adequate nutrition to those who need it. The Food and Nutrition Research Institute adds that 25% of pregnant Filipinas are nutritionally at risk, while close to 12% of lactating mothers are underweight. They conclude that pregnant women should focus on their health and nutrition needs to prevent difficult labor complications such as

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<sup>1</sup> Mopera, Lotis E., "Food Loss in the Food Value Chain: The Philippine Agriculture Scenario," *Journal of Developments in Sustainable Agriculture* 11: 8-16 (2016): 8.

<sup>2</sup> Rivas, Ralf, *Rappler*. February 5, 2021. <<https://www.rappler.com/business/inflation-rate-philippines-january-2021>>

<sup>3</sup> Global Network Against Food Crises, and Food Security Information Network. 2021. "2021 Global Report on Food Crises." *United Nations World Food Programme*. <<https://www.wfp.org/publications/global-report-food-crises-2021>>

<sup>4</sup> Ochave, Revin Michael D. *BusinessWorld*. April 1, 2020. <<https://www.bworldonline.com/more-metro-manila-lgus-to-host-mobile-markets/>>

<sup>5</sup> Social Weather Stations. *Fourth Quarter 2020 Social Weather Survey*. December 16, 2020. <<http://www.sws.org.ph/swsmain/artcldisppage/?artcsyscode=ART-20201216145500>>

<sup>6</sup> Ellen MacArthur Foundation. 2021. "Cities and Circular Economy for Food." *Platform for Accelerating the Circular Economy*. <<https://pacecircular.org/action-agenda/food>>

<sup>7</sup> FHI Solutions LLC. *Why 1,000 Days*. 2020. <<https://www.thousanddays.org/why-1000-days/>>

severe hemorrhage, infections, high blood pressure, and abscesses of the breasts. The Commission on Population and Development, meanwhile, has reported that 1.9 million Filipinas are expected to get pregnant because of lockdowns. Thus, the pandemic has increased the need for targeted interventions towards pregnant women.

Beyond pregnancy, the World Health Organization has reported that low birthweight babies are more at risk of health problems that manifest not only during early development stages but also until adulthood. Save the Children has added that 33.4% of Filipinos under the age of 5 are stunted, meaning that they have not reached their full potential for growth. UNICEF warns that stunting after 2 years of age can be permanent, irreversible, and even fatal. They also report that 27 out of 1,000 Filipino children do not get past their fifth birthday, with 48% of child deaths linked to undernutrition, higher than the global average. The Philippines is fifth among countries with the highest prevalence of stunting in the East Asia and Pacific region and among the 10 countries globally with the highest number of stunted children.<sup>8</sup>

Among those who do get past their fifth birthday, a majority are at risk of being underweight due to inadequate energy intake according to the Community Welfare, Wellness, & Well-being Laboratory of the Ateneo de Manila University and the University of the Philippines-Los Baños. They report that children's hunger and malnutrition are expected to worsen significantly as food and healthy diets become even more unaffordable to many Filipino households due to the COVID-19 restrictions and the accompanying economic recession. In one city in Metro Manila, for example, less than 50% of the children have fruits and vegetables, or milk and milk products in their diet.<sup>9</sup>

All these have long-term consequences for individuals and the country. The World Bank warns that undernutrition elevates the risk of morbidity and mortality, with the potential for transmission across generations. Undernourished children are also more likely to suffer serious infections and are at increased risk of death from common childhood illnesses such as diarrhea, measles, pneumonia, and malaria. Undernutrition increases the costs of health care and social safety nets—costs that are borne largely by the public sector—and lowers the efficacy of investments in education, reflecting the impact of malnutrition on morbidity, mortality, and poverty. Furthermore, undernutrition is associated with decreased lifelong earning potential and labor force productivity.<sup>10</sup> Conversely, the Asian Venture Philanthropy Network estimates that every USD1 spent on early childhood nutrition gives back USD16 to the local economy. They add that tackling malnutrition can help achieve 12 of the 17 Sustainable Development Goals.<sup>11</sup>

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<sup>8</sup> Mbuya, Nkosinathi V. N., Gabriel Demombynes, Sharon Faye A. Piza, and Ann Jillian V. Adona. 2021. *Undernutrition in the Philippines: Scale, Scope, and Opportunities for Nutrition Policy and Programming*. International Development in Focus. Washington, DC: World Bank. doi:10.1596/978-1-4648-1701-4.

<sup>9</sup> Advincula-Lopez, Leslie, Eden Miro and Joselito Sescon. September 19, 2020. *Rappler*. <<https://www.rappler.com/voices/thought-leaders/analysis-time-running-out-country-hungry-children>>

<sup>10</sup> Mbuya, et al.

<sup>11</sup> *End Maternal and Child Malnutrition in Asia*. Asian Venture Philanthropy Network. 2021. <<https://avpn.asia/maternal-and-child-nutrition/>>

### **Metro Manila can trigger a shift to a better food system**

Government has launched initiatives, such as food fortification and nutrition in emergencies, that cater to the needs of the general population, while other programs are intended to support nutrition surveillance and health promotion. Many of these programs are planned, and their outcomes are assessed at the national level, but their implementation depends on the priorities and capacities of the local governments ultimately responsible for service delivery, according to the World Bank. This fragmented form of governance has an impact on the consistency and efficiency of the programs and therefore on nutritional outcomes. Policy and social innovators can find opportunities for collective impact in this devolved arrangement despite the inconsistency and inefficiency.

In cities like Metro Manila, only 2% or less of the valuable nutrients in discarded organic resources gets looped back to productive use. Even more economic opportunities can be found in recovering more of these nutrients. The circular economy principles of regenerating natural systems, keeping products and materials in use, and designing out waste and pollution can offer a vision for enterprising actors and stakeholders to tap these opportunities and test solutions that can withstand this pandemic and future shocks. In this vision, Metro Manila's food consumption habits rest on adequate access to healthy and nutritious food for all via food production that improves rather than degrades the environment.<sup>12</sup>

However, this grand vision can be as overwhelming as the size of the demand. Alongside the priority segments of pregnant women and children in Metro Manila, a key research question then that this project attempts to answer is: What potential entry points can nutrition security stakeholders pursue to jumpstart the transition to a circular food system?

### **Harnessing collective impact for nutrition security**

There is an urgent need for multi-stakeholder collaboration for nutrition security that builds the foundations of a circular food system. The pandemic is a unique window of opportunity: this moment is priming key stakeholders to be more open to exploring new ways of designing solutions. Policy windows and catalytic funding opportunities may also be accessible that are not usually so during less desperate times. Conversations toward a better normal have already begun and a circular food system can be a major component of that new normal. However, we must act before the window closes.

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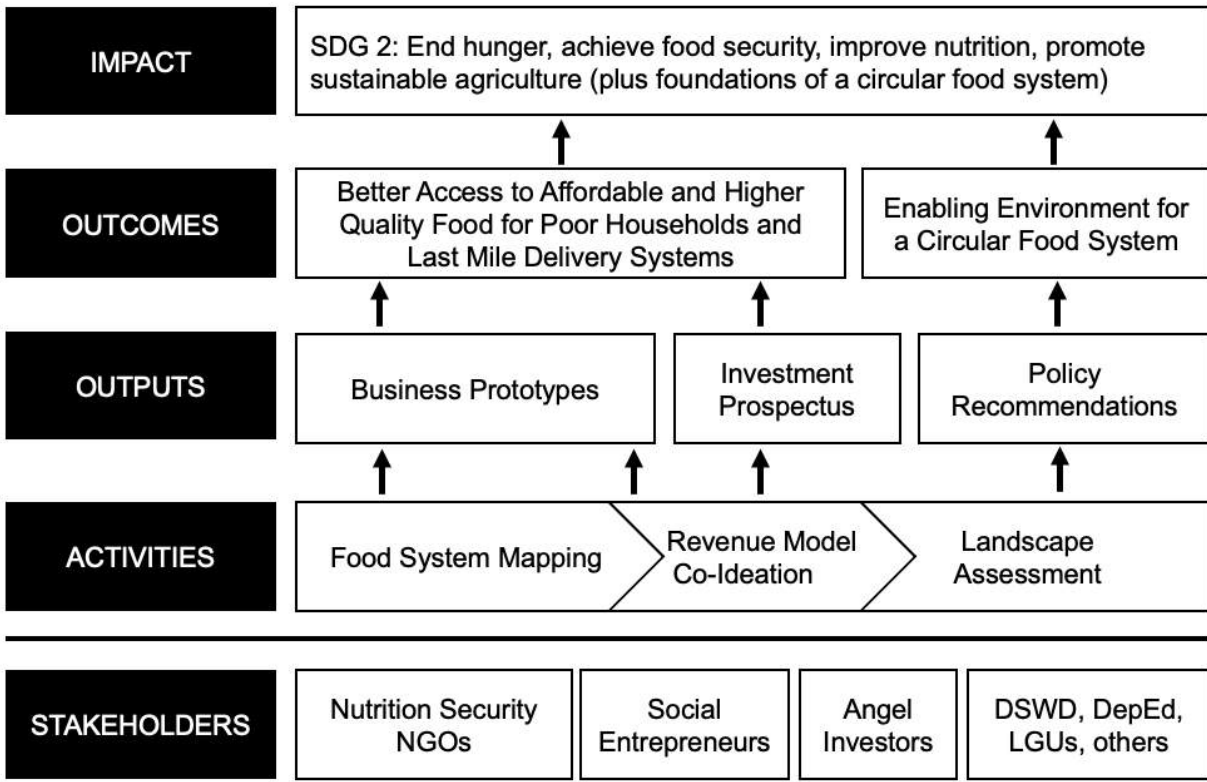
<sup>12</sup> Ellen MacArthur Foundation.

## II. Objectives and methods

Our theory of change centers on mapping the current linear food system and explore market-driven entry points for sustainable, long-term solutions. Through collective action, problem-owners and problem-solvers can (1) co-generate business models and prototypes, (2) nest these innovations within enabling national and local policies for nutrition security, and (3) identify funding sources from within government and/or private investors. Working together, these levers would unleash sustainable innovation that builds the foundations of a futureproof circular food system for Metro Manila.

To lay the foundations of this circular food system, this action research project aims to:

1. Map the Metro Manila food system among nutrition security organizations:
  - a. Identify key organizations and the roles they play in the system
  - b. Map the landscape of key policies in which current solutions are operating, with a view to identifying policies that enable or inhibit sustainable solutions; and
  - c. Assess and validate the need for key operating work streams which we hypothesize will be among the key sub-levers for change; and
2. Identify market-based solutions and complementary policies:
  - a. Evaluate market-based solutions that have been implemented in other contexts, and in cities that have initiated circular food systems
  - b. Co-ideate feasible business models with key stakeholders
  - c. Draft an investment prospectus for these models; and
  - d. Review policies at the national and local levels, to identify gaps as well as existing policies that must be strengthened.



To meet these objectives, this action research project has undertaken the following activities:

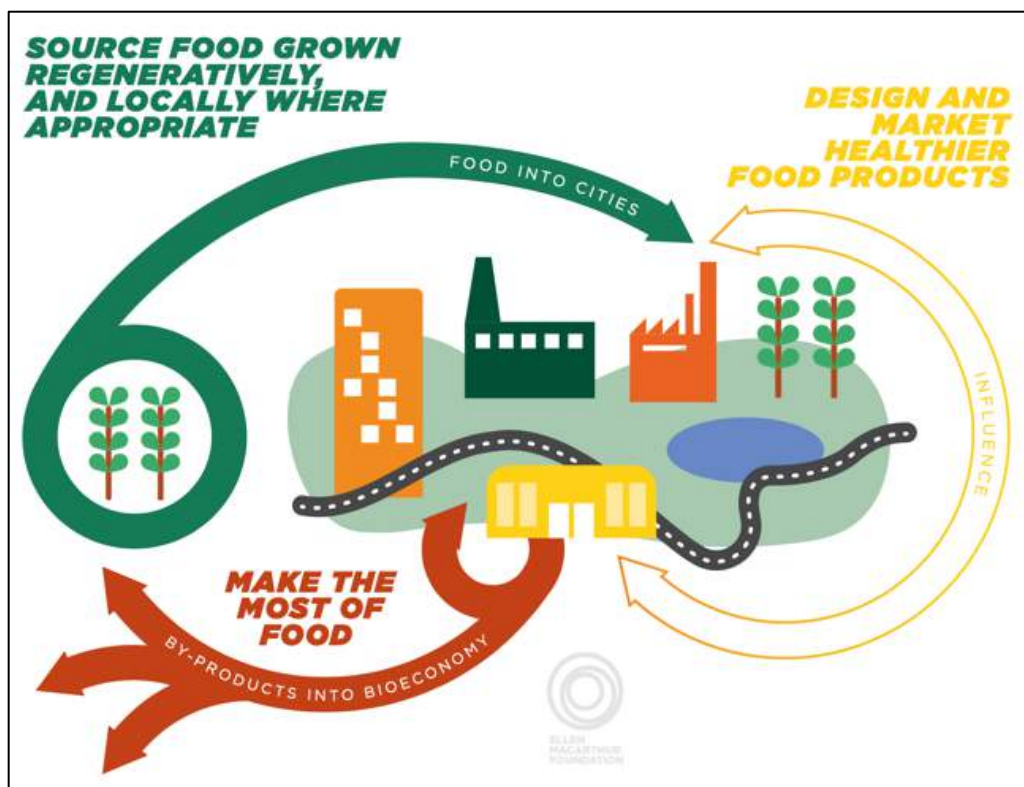
1. Key informant interviews with nutrition security stakeholders in Metro Manila, including social entrepreneurs, civil society leaders, and government officials;
2. Desk research of alternative business models and circular food systems;
3. Scoping review of policies, issuances, and guidelines pertinent to food production and distribution at the national and local levels;
4. Process documentation of business model generation sessions; and
5. Feedback and validation interviews or sessions with policy makers and program managers.



### III. Transitioning to a circular food system

#### Defining a circular food system

The Platform for Accelerating the Circular Economy has three ambitions for a circular economy for food: (1) sourcing food grown regeneratively, and locally where appropriate; (2) making the most of food; and (3) designing and distributing healthier food products. Producing food in ways that regenerate nature has two aspects: first, shifting what we grow toward a 'planetary health' diet that is richer in fruits, vegetables, and more diverse protein sources; and second, shifting how we grow—changing production methods to include more resource efficient and regenerative methods such as agroforestry, and permaculture.<sup>13</sup> Local sourcing can also reduce the need for excess packaging and shorten distribution supply chains. Making the most of food also has two aspects: first, reducing avoidable food waste to zero; and second, designing out the concept of food waste altogether ensuring that food by-products are transformed into a broad array of valuable materials. Lastly, designing and distributing healthier food products would mean developing food products with adequate nutritional value, using food by-products as ingredients, and positioning delicious and healthy products as easy and accessible choices for people daily.<sup>14</sup>



Circular food system framework | Source: The Ellen MacArthur Foundation

<sup>13</sup> Agroforestry and permaculture as seen as regenerative methods due to the design principles behind their practice that keep nutrients in the soil.

<sup>14</sup> Ellen MacArthur Foundation.

## Learning from the experiences of others

Metro Manila need not start from scratch. Cities here and abroad have launched initiatives that adhere to the principles of a circular economy. Some organizations deliberately call their approach circular, while others foreground or combine multiple lenses and frameworks such as food security, nutrition, or agricultural development.

### Sao Paulo, Brazil

In April 2021, the City of Sao Paulo joined the Ellen MacArthur Foundation as a Strategic Partner. They are the first city government to join a network that already includes global businesses and philanthropic organizations. Together they have identified the following assets that could be leveraged to build a thriving circular food system: access to strong economic markets, Brazil's largest consumer market, diversified family farming landscape, proximity to perishable food production hubs, high collective innovation capacity, and a vibrant gastronomy landscape. To build a case for their transition to circularity and illustrate the benefits, they built three scenarios: (a) What if São Paulo re-localized food production while moving towards regenerative practices? (b) What if 25% of solid organic waste was diverted from landfill and used to support local regenerative farming every year? And (c) What if a portion of sewage entering treatment stations was valorized into biofertilizer for local farmers?

The report concludes that over USD140 million in economic, environmental and health benefits could be captured every year in comparison to the current linear approach. Several initiatives are already aiming to address individual aspects of this food system redesign, and the circular economy offers a powerful common vision to connect these in a systemic approach where that they are not only complementary, but mutually reinforcing.<sup>15</sup>

### Davao del Norte

In 2017, the National Nutrition Council identified 11 local government units to include in their Compendium on Actions of Nutrition. One of only two provinces on that list is Davao del Norte, which has adopted a Minimum Basic Needs Approach to nutrition since 1998. The report cites as key factors to the province's success in improving the nutritional status of its people include: (1) competent leadership, (2) political unity among component local government units, (3) adoption of multi-sectoral and inclusive program strategies, (4) strengthening of nutrition structures and processes at all levels, including regular monitoring and program implementation review, (5) expanded participation of sectors to non-government organizations and private entities in the nutrition program, (6) the supervision and provision of technical assistance by Provincial Nutrition Action Officer, nutrition coordinator and the Regional Nutrition Council, (7) legislative support, (8) the monitoring and evaluation of local level plan implementation and the nutrition awards, and (9) the deployment and capacity building of the Barangay Nutrition Scholars.

Governor Rodolfo del Rosario's employment of the Minimum Basic Needs approach, an evidence-based, consultative, and participative planning process, also helped him analyze the situation of the province and

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<sup>15</sup> Ellen MacArthur Foundation. 2021. *Cities and Circular Economy for Food: Sao Paulo, Brazil*.  
<<https://www.ellenmacarthurfoundation.org/assets/downloads/Focus-City-Sa%CC%83o-Paulo-Brazil.pdf>>

the needs of its people. He also institutionalized Cluster Development that grouped municipalities and cities for better developmental complementation. The province recruited volunteer Barangay Sanitary Inspectors to address underlying causes of malnutrition and engaged different department/sectors (Agriculture, Social Welfare, Health, LGUs, NGOs) to provide interrelated programs for nutrition. This robust ecosystem of province-wide stakeholders offers an opportunity to layer circular food economy principles on top of an impressive track record in nutrition.<sup>16</sup>

### Quezon City

Billed as the only local government food security task force in the country so far, “Grow QC Kasama sa Pag-unlad sa Pagkain, Kabuhayan at Kalusugan” is an urban agricultural program that hopes to develop policies and viability of urban farms, despite Quezon City being a dense urban area. The task force adopted the United Nations framework where food security interventions can only be effective if it is a combination of different interventions scoping the different sectors in the food security value chain. The program also includes the development of agricultural corridors, food processing zones, and the largest urban farm at 7 hectares plus a network of 166 urban gardens. The city’s soup kitchen and feeding programs provides fortified porridge and noodles, sourced from their urban farms. Additional action points identified include: establishing vegetable nurseries, distributing seed starter kits, identifying model community gardens, promoting aquaculture as an alternative to pig farms that were affected by the African Swine Flu, scaling up of the feeding program through a commissary and more community kitchens, organizing Food Trade in partnership with the Department of Agriculture and logistics companies to further bring down the cost of food, establishing an agro-industrial zone based on circular economy principles, and promoting vegetable contract-growing agreements. The City has formalized 14 partnerships so far including with the Ayala Group of Companies and the Diocese of Novaliches, with the United Nations documenting the implementation of initiatives.<sup>17</sup>

These are just three of many existing programs and activities that nutrition security stakeholders can learn from. The diversity of interventions raises the need for a systematic way to capture lessons from these initiatives whether they continue to succeed or eventually fail.

### **Addressing policy implementation gaps**

Nutrition security stakeholders acknowledge that the Philippine Plan of Action for Nutrition 2017-2022 already has a robust policy framework, but significant implementation gaps remain. In several key informant interviews, local government officials admit to operational silos and inconsistencies in whether procurement for feeding programs and other government interventions ought to be done at the provincial or municipal level. Inconsistencies were also observed as regards what budget items are allowed for national government agencies and local government units. These prohibit the problem owners and front liners at the community level from innovating and adapting to specific changes in context.

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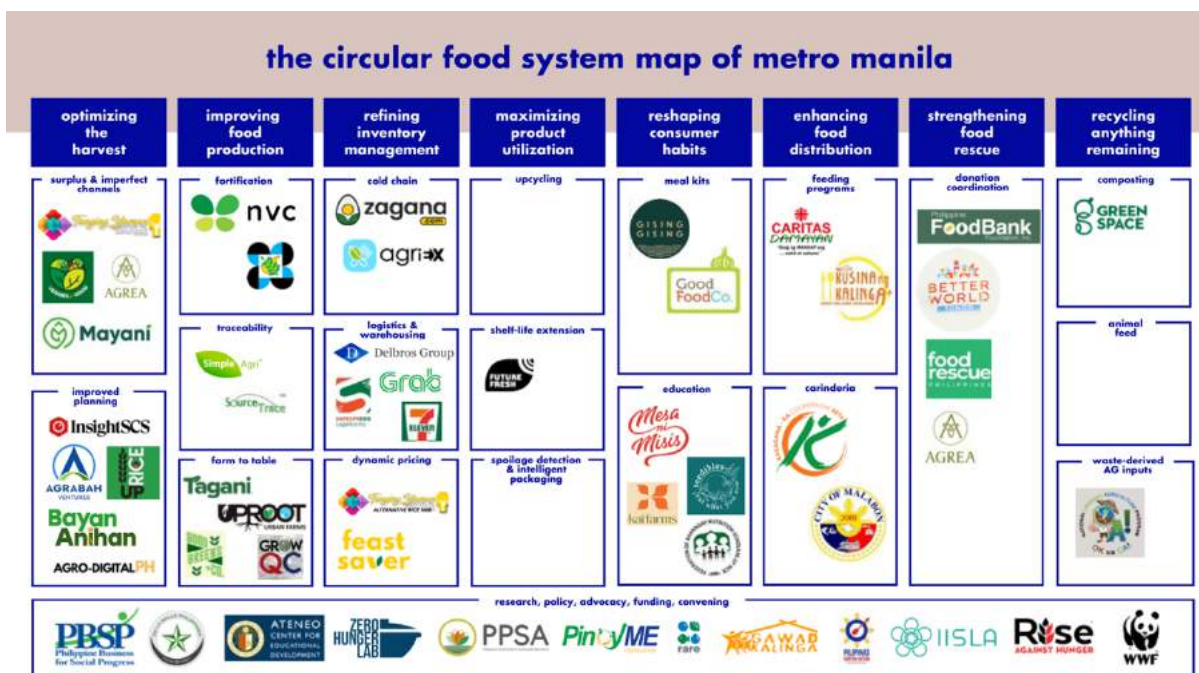
<sup>16</sup> National Nutrition Council, Nutrition International, Department of Health, and UNICEF Philippines. 2018. “The Ascent of Local Governments in Nutrition in the Philippines. A Compendium of Actions on Nutrition.” *UNICEF Philippines*. <<https://www.unicef.org/philippines/reports/ascent-local-governments-nutrition-philippines>>

<sup>17</sup> Velasco, Emmanuel. May 2021. Quezon City Food Security Task Force.

Aside from the annual exercise of the National Nutrition Council to monitor and recognize successful nutrition interventions, stakeholders could benefit from specific examples where collective impact and blended financing have led to positive results. A national catalog of budget items that are allowed for national government agencies, local government units, and other government affiliates will help those outside government determine how they can supplement public financing without duplicating efforts and increasing the number of underutilized assets. They could also benefit from expanding this exercise to include other aspects of the circular food system from the farm all the way to post-table nutrient recovery.

#### IV. Mapping the circular food system for Metro Manila

As a US nonprofit working to end food loss and waste, ReFED developed an Insights Engine to collect data and generate insights towards building a sustainable, resilient, and inclusive food system that optimizes environmental resources, minimizes climate impacts, and makes the best use of the food we grow.<sup>18</sup> Their data and solutions hub includes a map of the current food waste reduction landscape consisting of 7 action areas and 19 groupings of interventions that covers prevention of food waste, food rescue, and recycling. We modify this map to 8 action areas that attempts to capture the current circular food system in Metro Manila. The map serves as a starting point for a continuous conversation on the multiple roles needed in a circular food system and the actors that will play these roles. Many of these actors play multiple roles across the system and their roles may also evolve over time. We locate them on the map based on where they perform most prominently. A short description for each of the organizations captured so far in the map can be found as an appendix to this report.



Circular Food System Map of Metro Manila as of January 2022

<sup>18</sup> ReFED Insights Engine. <<https://insights.refed.com/>>

### 1. Optimizing The Harvest

This action area includes ways to avoid over-production, then harvesting as much as possible while sourcing only what is needed. Organizations under Surplus and Imperfect Channels are those that ensure unwanted and excess produce from mainstream supply chains are diverted to good use and not discarded to rot, as seen in some shocking news headlines. Improved Planning includes organizations that help farmers forecast supply and demand better to inform their planting habits. These interventions will align purchases with sales as closely as possible and find secondary outlets for surplus and will build out systems and processes for optimal on-site handling.

### 2. Improving Food Production

This action area includes ways to make food healthier, leverage technology to help efficiently move products and to maximize freshness and selling time. Organizations under Fortification seek to increase the nutritional value of the food we eat. Organizations under Traceability deploy technology to track food from the source all the way to the end-consumer. Organizations under Farm to Table help shorten the supply chain and includes urban and peri-urban farming initiatives.

### 3. Refining Inventory Management

This action area includes ways to protect food as it goes through the supply chain, and help businesses maximize their inventory without increasing waste. Organizations under Cold Chain provide cold storage facilities to help farmers withstand price volatility and shocks. Organizations under Logistics and Warehousing provide services that move inventory across the supply chain. Organizations under Dynamic Pricing provide opportunities for businesses and consumers to negotiate better price points as food reaches its expiration date.

### 4. Maximizing Product Utilization

This action area includes ways to make the most out of food, and to redesign facilities, operations, and menus that use as much of each product as possible. Organizations under Upcycling turn food by-products into nutritious and delicious food. Organizations under Shelf-life Extension sell products that last longer while staying fresh. Organizations under Spoilage Detection and Intelligent Packaging develop materials and products that help monitor food on the shelves or provide additional protection from the elements. It is evident in the current map that this action area has the most room for new players.

### 5. Reshaping Consumer Habits

This action area includes ways to drive consumers towards better food management and less waste by creating shopping, cooking, and eating environments that promote those behaviors. It is also about shifting culture to place more value on food and reduce waste. Organizations under Meal Kits provide consumers with the right portion sizes so that consumers do not contribute to waste. Organizations under Education run marketing campaigns and initiatives that inform consumers about healthy and environment-friendly eating.

## 6. Enhancing Food Distribution

This action area includes ways to distribute food outside mainstream channels so that it reaches those who need them. Organizations under Feeding Programs distribute cooked or uncooked food to target beneficiaries and communities. Organizations under Carinderia use the local network of eateries and micro food entrepreneurs to distribute food while reaching nutrition targets.

## 7. Strengthening Food Rescue

This action area includes the collection of food from restaurants and other food businesses and improve information flow between these companies and organizations that distribute food. Organizations under Donation Coordination manage donors and recipients so that those with limited access to food get assistance.

## 8. Recycling Anything Remaining

This action area includes finding the highest and best use for any remaining food or food scraps to capture nutrients, energy, or other residual value. Organizations under Composting provide products and services to help other organizations turn food waste into compost. Organizations under Animal Feed turn food by-products into nutritious food for livestock and other animals. Organizations under Waste-derived Agricultural Inputs help turn food by-products into fertilizer and other agricultural inputs.

Organizations under Research, Policy, Advocacy, Funding, and Convening provide the necessary support and coordination so that the entire food system achieves its targets. These organizations already harness collective impact in their own spheres of influence and can benefit from continuous networking and community-building.

### **Building granularity and sustaining the Map**

Any food system will always be changing. Should the transition to a circular one continues as envisioned, there is a need to regularly update the map and its framework, to identify new stakeholders, and to determine the reach and impact of each of them. It will be ideal to add more detail at the municipal and barangay level. Another way to sustain this mapping exercise is to integrate it to shared metrics and dashboards. Local stakeholders can take inspiration from the work of the Global Alliance for Improved Nutrition and the John Hopkins University that has developed a country-level food systems dashboard.<sup>19</sup> The Economist Intelligence Unit also developed a Food Sustainability Index that measures food systems around three pillars: food loss and waste, sustainable agriculture, and nutritional challenges.<sup>20</sup> Meanwhile, the World Food Programme has developed a Hunger Map that serves as a global dashboard on the undernutrition issue.<sup>21</sup>

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<sup>19</sup> The Food Systems Dashboard. Global Alliance for Improved Nutrition (GAIN) and Johns Hopkins University. 2020. <<https://www.foodsystemsdashboard.org/>>

<sup>20</sup> Food Sustainability Index. Economist Intelligence Unit. 2021. <<https://foodsustainability.eiu.com/country-tool/>>

<sup>21</sup> Hunger Map. World Food Programme. 2021. <<https://hungermap.wfp.org/>>

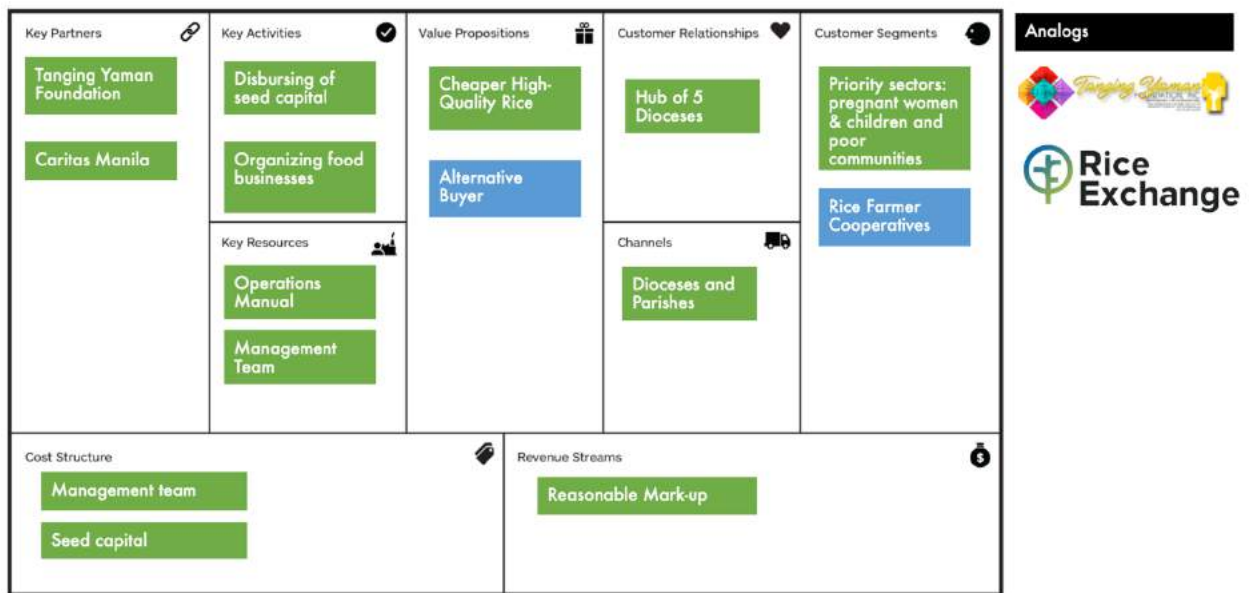
## V. Co-ideating circular food business models

Mapping the current circular food system map of Metro Manila helps us identify market-driven solutions to the hunger and malnutrition crisis. Through dialogue with nutrition security stakeholders, we identify potential entry points for circular food businesses that will reduce dependence on donors and volunteers, especially during crises such as a pandemic. We also develop a Unit Model tool that simplifies the financial modeling exercise for any of these businesses. The tool helps us explore multiple configurations of the identified entry points given resource constraints. It also helps determine estimated initial investment and total cash needed that can inform the Investment Prospectus. Links to the Unit Model spreadsheets can be found as an appendix to the report.

Based on the experience of nutrition security stakeholders, 4 potential entry points have been identified listed here in the order of feasibility with the first as most feasible. Each entry point is illustrated in a business model canvas that attempts to capture their key components. We also include analogs that are existing initiatives in the Philippines and elsewhere. These analogs can serve as proof of concept or inspiration for what works.

### 1. Alternative Rice Hubs

Tanging Yaman Foundation has distributed significant amounts of rice, vegetables, and other goods to poor communities in 5 dioceses in Metro Manila. They have been doing this work before as disaster response, but the pandemic intensified the need for greater donor coordination and food distribution. Their experience suggests an opportunity to replicate their Alternative Rice Hub model to other parts of Metro Manila.

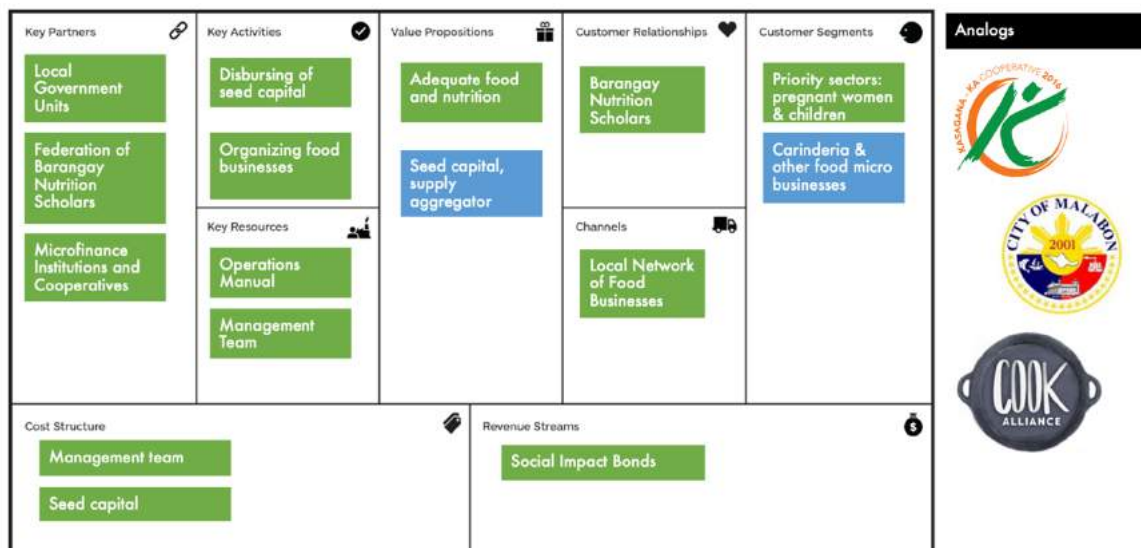


Business Model Canvas for the Alternative Rice Hub

Under this business model, an organization such as Tanging Yaman Foundation sells affordable, high-quality rice to priority sectors in poor communities. The organization also serves as alternative buyer to rice farmer cooperatives with surplus rice. Because it bypasses several layers in the rice value chain, the model can sustain itself with a reasonable mark-up without passing it on to end-consumers. One limitation though of this entry point is that the ceiling at which larger market forces start affecting the price dynamics and operations of the implementing organization. Rice is a major food crop that constitutes a third of the total food expertise of the bottom quintile, the single biggest source of energy, and the biggest contributor to per capita availability of calories.<sup>22</sup> Several attempts at reforming the industry spanning decades have had limited success. As an entry point, however, the Tanging Yaman Foundation experience shows that it can address urgent hunger needs exacerbated by the pandemic. Alongside the replication of this experience to other areas in Metro Manila, other nutrition security stakeholders can explore Rice Exchange as an analog. This global commodity exchange for rice can provide insights that the food sector can apply as it continues to improve rice distribution and push for policy and institutional reforms.

## 2. Carinderia Feeding Networks

Kasagana Ka Cooperative and the City of Malabon have combined their nutrition and livelihood development efforts through a Carinderia Feeding Program. They source seed capital from the City Government so that eateries were able to continue operating as food businesses during the pandemic. Their roster of 63 carinderias were mapped and for every feeding cycle, they activate a portion of this network based on proximity to areas with high cases of stunting and wasting. The City Nutrition Officer facilitates the operations and Kasagana Ka provides training for proper management of their kitchen and eatery operations.



Business Model Canvas for the Carinderia Feeding Network

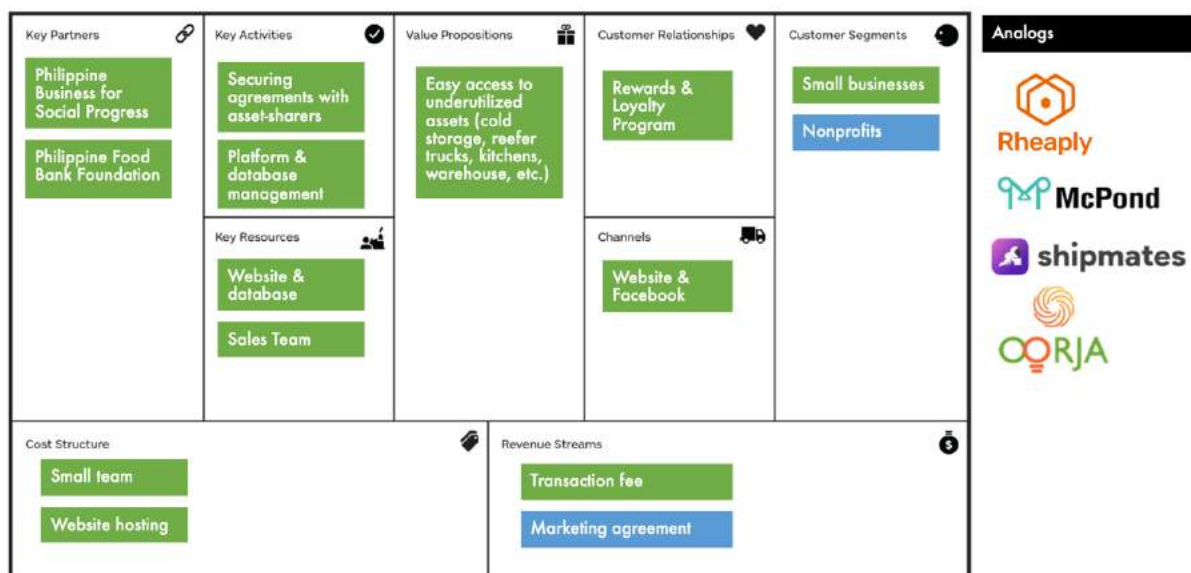
<sup>22</sup> Briones, Roehlano, Ella Antonio, Celestino Habito, Emma Porio, and Danilo Songco. 2017. Strategic Review: Food Security and Nutrition in the Philippines. Rome: World Food Programme. <<https://www.wfp.org/publications/2017-food-security-and-nutrition-philippines>>



Under this business model, an implementing organization provides adequate food and nutrition to priority sectors and at the same time seed capital and supply aggregation services to carinderias and other food micro businesses. This business model can also build on the work of the Jollibee Group Foundation and partners, specifically their Trainer’s Manual for Carindera Food Safety Operations, their Recipe Book, and their Kitchen Maintenance Manual.<sup>23</sup> Another relevant reference material would be the Nutrition Journal of Kain Tayo Pilipinas that helps mothers with their First 1000 Days.<sup>24</sup> In partnership with microfinance institutions that can provide business development services and other technical assistance specific to running eaters, the model can be self-sustaining. This has the potential to be supported further by blended financing mechanisms such as Social Impact Bonds.

### 3. Asset-sharing Platforms

Resource constraint is a major and recurring pain point shared by multiple nutrition security stakeholders and organizers of feeding programs. They report that they can successfully expand their services and reach should they have access to additional manpower, facilities, and equipment. Other stakeholders, meanwhile, lament that they have underutilized assets due to oversupply. This has only been exacerbated by the pandemic with some restaurants donating excess equipment or selling them at cost. However, all of the work done to coordinate this exchange of resources is done manually and only few are documented. If Metro Manila were to transition to a circular food system, it will need a system-wide asset-sharing platform hosted by a trusted backbone organization. Other business models and innovations can be built on top of this project.



Business Model Canvas for the Asset-Sharing Platform

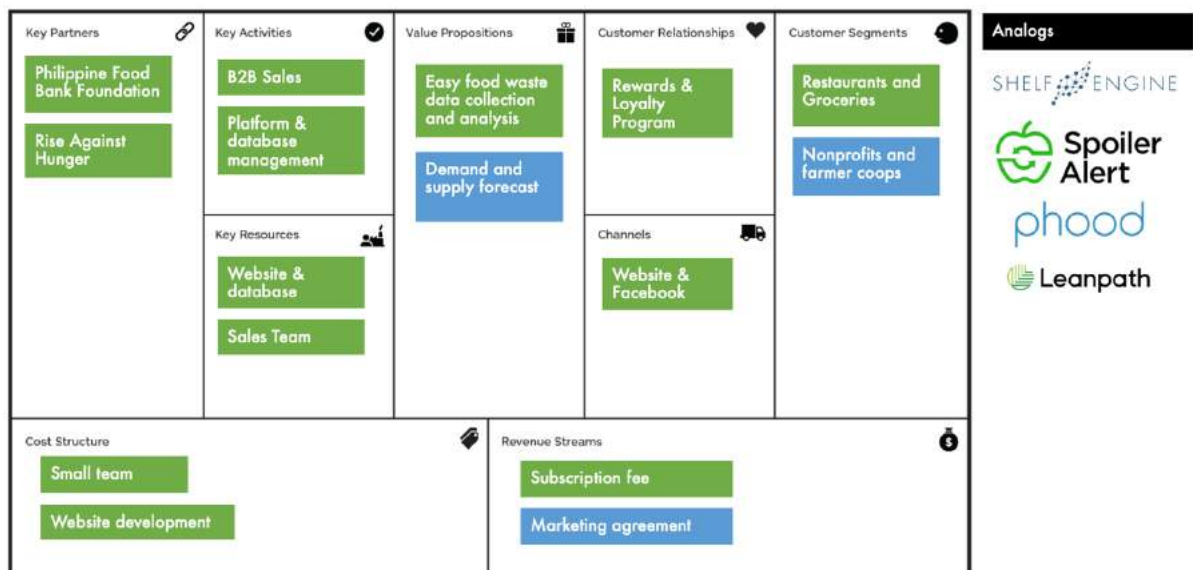
<sup>23</sup> Jollibee Group Foundation. 2021. <<https://www.jollibeefoundation.org/publications>>

<sup>24</sup> Nutrition Journal. Kain Tayo Pilipinas. 2021 <<https://kaintayopilipinas.com/education>>

Under this business model, an implementing organization will provide easy access to underutilized assets to small businesses and nonprofits that operate in the nutrition sector. These assets could include cold storage and warehouse facilities, refer trucks, kitchens. The platform can also include a directory of manpower resources and experts such as nutritionists, agriculturists, and chefs. To sustain the enterprise, restaurants and small businesses can pay a transaction fee or a monthly subscription fee to avail of the service. Several analogs exist that can serve as inspiration to this entry point including Rheaply Exchange and Oorja. In the Philippines, Shipmates is attempting to organize the logistics sector for small businesses. That sector is a crucial component of the larger asset-sharing platform. Although not a direct analog, Singapore-based startup OrderEZ can also provide inspiration for additional value propositions and revenue streams, including sales management, business intelligence and analytics, sponsored product advertising, and online payments processing.<sup>25</sup> Nutrition security stakeholders can tap startup incubators and schools to organize an innovation challenge around this specific startup idea.

#### 4. Inventory Tracking Software-as-a-Service

As part of the Solutions Analysis of the ReFED Insight Engine, food inventory and waste tracking ranks high up in their list of interventions with the highest potential for net financial benefit, waste diverted, and greenhouse gas emissions prevented. The other solutions that ranked higher already exist in some form in the Philippines. This potential entry point provides nutrition security stakeholders the tools to monitor and improve the transition to a circular food system.



Business Model Canvas for the Inventory Tracking Software-as-a-Service

Under this business model, an implementing organization provides data collection services and analytics on food inventory and waste to restaurants and groceries. It can also forecast demand and supply for nonprofits and farmer cooperatives to improve planning. For-profit organizations can pay a subscription fee to sustain the model. Analog in the US such as Shelf Engine, Spoiler Alert, Phood, and Leanpath are

<sup>25</sup> OrderEZ. <<https://www.orderEZ.co/>>

startups that have built this for their context. In the medium term, it can integrate behavioral change interventions such as those introduced by UK-based startup Winnow that shows restaurant staff in real-time the value of each item they throw away.<sup>26</sup> One option is to subscribe to their services and see if it can be used here. Another is to include this in the innovation challenge that nutrition security stakeholders can organize.

## **VI. Concluding remarks**

One hope of this research project is that the entry points illustrated here and the conversations taking place converge to a social franchising system that provides a library of turnkey solutions to local leaders. Collective impact approaches have already been applied to the challenge of nutrition security. To build on that work, we forward these recommendations.

**Institutionalize venture-building as a response to an dynamic food system**

Nutrition security stakeholders can benefit from institutionalizing a mechanism where venture ideas can be prototyped and validated. This sandbox approach to testing market-based solutions need not require the creation of a new entity. The backbone organization can tap existing accelerators, incubators, and schools to work on building these new ventures before they are formally established. The dynamic nature of the problem also requires constant experimentation as the 4 entry points listed here may lose relevance over time. But the practice of ideation, prototyping, and financial modeling can all be part of the regular practice of the coalition.

**Capacitate the next generation of circular food system leaders**

Harnessing collective impact to reduce hunger and malnutrition requires inter-generational cooperation. Similar to how government and big businesses have formal structures to conduct succession planning and human resources management, the fragmented nutrition security sector could benefit from establishing its own set of practices for recruiting, training, and mentoring the next generation of problem solvers. The Department of Agriculture and the startup sector each have programs toward this end that nutrition security stakeholders can build upon.

**Analyze the applicability of more nutrition security solutions to the local context**

The Ellen MacArthur Foundation, the ReFED Insights Engine, and many others continue to do research on interventions that succeed in other countries. Their deep analysis goes all the way to computing the net financial benefit, the number of tons diverted, and the amount of greenhouse gas emissions prevented for each intervention. Nutrition security stakeholders will benefit from this permanent and rigorous research. Insights generated here can also inform the venture-building initiatives of the coalition, and long-term policy reforms that will be needed.

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<sup>26</sup> Winnow. <<https://www.winnowsolutions.com/>>

### Explore ways to unlock public financing and blended financing

Several nutrition security stakeholders lament the continued existence of silos even during the pandemic that has minimized the impact of government-led feeding programs. Some private sector initiatives have also been affected by the inability to unlock public financing from government agencies. As the coalition continues to push for reforms in the government procurement process, it can experiment on blended financing mechanisms such as social impact bonds initially at a small scale. Opportunities also lie in working with more local government units as their fiscal space further expands in the coming years.

Together with the circular food system map, the business model canvas, and the unit model spreadsheets, we hope to expand the toolkit available for nutrition security stakeholders as they continue to address this wicked problem of hunger and malnutrition.

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## APPENDIX A: Government Interventions for Nutrition Security

Nutrition-specific – Programs that are planned and designed for nutritional outcomes:

1. Barangay Nutrition Scholar Program (BNS) - seeks to recruit and train community volunteers to act as Barangay Nutrition Scholars throughout the country. This includes monitoring the nutritional status of children under the age of five and coordinating nutrition activities throughout the community (Mbuya et al. p. 100).
2. Operation Timbang Plus (OTP) - Barangay Nutrition Scholars identify malnourished children in the community through this growth-monitoring program (Mbuya et al. p. 100).
3. Food Fortification Program - The Food Fortification Program of the DOH seeks to address nutrient deficiencies, specifically deficiencies in iodine, vitamin A, and iron, through the production and promotion of fortified foods and staples, such as salt, flour, sugar, cooking oil, and rice (DOH 2020e) (Mbuya et al. p. 102).
  1. Republic Act no. 8172: An Act Promoting Salt Iodization Nationwide and for Other Purposes - all involved in the salt industry, including producers, distributors, and retailers, are required to make iodized salt available to the general population.
  2. Republic Act no. 8976: An Act Establishing the Philippine Food Fortification Program and for Other Purposes - mandated the fortification of sugar and cooking oil with vitamin A and the fortification of rice with iron (Congress of the Philippines 2000). This program calls for wheat flour to be fortified with both vitamin A and iron.
4. Garantisadong Pambata - a biannual week-long delivery of a package of health services to children from birth to 59 months of age. The Expanded Garantisadong Pambata Program is guided by the principles of universal health care and seeks to provide a comprehensive, integrated package of health and nutrition services to children in different settings, such as the home, school, and health facilities (DOH 2020f) (Mbuya et al. p. 100).
5. Philippine Integrated Management of Acute Malnutrition (PIMAM) - national guidelines in response to the need to establish a program for the community-based management of acute malnutrition. These were not readily adopted for routine use locally due to logistical concerns, including the procurement and availability of commodities, such as ready-to-use therapeutic food. However, the PIMAM guidelines were useful in providing urgent nutritional interventions for children affected by disasters (Mbuya et al. p. 104).
6. Infant and Young Child Feeding (IYCF) Program - crucial for ensuring good nutritional status for children under the age of five as well as for reducing mortality and morbidity in this age group (DOH 2020g). 2005). Key points of the IYCF strategy include encouraging exclusive breastfeeding for children up to six months of age and appropriate complementary feeding practices, with continued breastfeeding for children 6–24 months of age (Mbuya et al. pp. 104-105).
  - a. Executive Order no. 51: National Code of Marketing of Breastmilk Substitutes, Breastmilk Supplements, and Other Related Products (Milk Code of 1986) - prohibits health facilities from promoting the use of infant formula with the intent of encouraging breastfeeding. This policy also regulates the marketing of infant formula and breast milk substitutes, particularly product labeling.

- b. Republic Act no. 10028 - promotes rooming-in as a policy for mothers and babies delivering in health facilities. It urges health and non-health facilities to establish lactation stations with access to a clean lavatory and to provide seating and breast pumps.
  - c. Republic Act no. 11148 of 2018 - With regard to IYCF, this law reinforces the role of lactation support as part of health and nutrition services at the community level and promotes the counseling and teaching of caregivers of children 6–24 months of age with regard to timely and appropriate introduction of complementary feeding while continuing breastfeeding.
7. Micronutrient Program - seeks to address specific micronutrient deficiencies, such as vitamin A, iodine, and iron (DOH 2020j). It provides therapeutic iron supplementation to anemic children ages 6–59 months as well as to pregnant and lactating mothers attending regular checkups at local health facilities. Another important initiative of this program is the provision of micronutrient powder to be mixed into the food of children 6–23 months of age (Mbuya et al. pp. 105-106).
  8. Mother-Baby-Friendly Hospitals - in line with Republic Act no. 10028: Expanded Breastfeeding Promotion Act of 2009 as well as Republic Act no. 7600: Rooming-In and Breast-feeding Act of 1992 (Congress of the Philippines 1992, 2010). Both of these policies seek to promote breastfeeding while a mother and her newborn baby stay in a health facility by enforcing rooming-in and early initiation of breastfeeding (Mbuya et al. p. 107).

Nutrition-sensitive – Programs planned not for nutritional objectives but tweaked to produce nutritional outcomes:

1. Adolescent Health and Development Program - The program created adolescent-friendly health facilities. These safe spaces serve as physical locations for counseling, especially for teenage pregnancy. importance, as mothers in their teens are more nutritionally at-risk than mothers in their 20s and are less likely to provide optimum feeding and support for their infants (FNRI 2015). Teen-oriented nutrition and healthy diet sessions are part of the program, intended to address the increasing overweight and obesity rates in this age group (Mbuya et al. p. 110).
2. Integrated Management of Childhood Illness Program - is designed to cure and prevent disease in children under the age of five who are seen in the community or outpatient setting (DOH 2020h). The IMCI approach focuses on five conditions: pneumonia, diarrhea, malaria, measles, and malnutrition (WHO 2018a) (Mbuya et al. pp. 110-111)
3. National Safe Motherhood Program - seeks to strengthen the provision of high-quality maternal and newborn services, with the aim of reducing maternal mortality and morbidity as well as poor perinatal and neonatal outcomes (DOH 2020k) (Mbuya et al. p. 111).
4. Unang Yakap (Essential Newborn Care) Program - made mandatory for hospitals and lying-in clinics in 2009. Four essential steps are followed in this protocol: immediate and thorough drying of the newborn, early skin-to-skin contact, properly timed cord clamping, and nonseparation of newborn from mother (to start early breastfeeding). Properly timed cord clamping is recommended to prevent iron deficiency anemia until the age of six months (WHO 2019) (Mbuya et al. p. 112).

5. Expanded Program on Immunization (EPI) - seeks to provide essential vaccines to Filipino children before they complete their first year of life (DOH 2020b). The EPI also provides an opportunity to conduct nutrition surveillance, assess the target population, and counsel caregivers (Mbuya et al. p. 112).
  6. Universal Health Care Law (Republic Act no. 11223, s. 2019) provides several opportunities to promote nutrition (Congress of the Philippines 2019) (Mbuya et al. p. 115).
1. Integration of local health systems at the provincial level is intended to reduce the variance in LGU capacities to deliver nutrition services and allow provinces to provide oversight over municipality-level nutrition actions;
  2. The proposed interoperable information system is intended to make it easier to track performance as well as to identify and troubleshoot problems early;
  3. The financing of primary care services, including nutrition, is delineated more clearly as being the responsibility of the DOH and the LGU, and health and nutrition programs are expected to be funded more sustainably and systematically under the law.

Nutrition supportive programs - consist of enabling programs such as mobilization of LGUs for nutritional outcomes, and policy development for food and nutrition

1. Food Staples Sufficiency Program (FSSP), 2011-2016 - was launched to provide guidance to achieving national sufficiency among food staples and increasing their competitiveness to external markets (Briones p. 36)
2. Comprehensive Agrarian Reform Program (CARP) - aims to increase access of farm tenants and landless agricultural workers to productive opportunities by providing them ownership of 3 hectares of agricultural land from excess lands of government and private landowners (Briones p. 36).

Social protection programs:

1. Pantawid Pamilyang Pilipino Program - improves nutrition outcomes for children living in poverty by providing cash assistance to households conditional on their adherence to health checkups and growth monitoring and by offering family development sessions that raise caregivers' knowledge and awareness of nutrition (Mbuya et al. p. 119).
2. Kapit-Bisig Laban sa Kahirapan - Comprehensive and Integrated Delivery of Social Services (KALAHI-CIDSS) - provides grants to barangays for direct implementation of projects, which had previously been identified and prioritized by participating communities themselves (Briones p. 39).
3. Accelerated and Sustainable Anti-Poverty Program (ASAPP) - unveiled by the DSWD in response to the slow progress in poverty reduction due to limited livelihood opportunities and business expansion and high in-migration of low-skilled labour (Briones p. 39).



## APPENDIX B: List of organizations in the Circular Food System Map of Manila

### Optimizing the Harvest

#### Surplus and Imperfect Channels

1. Mayani - <https://mayani.ph/>

**Mayani** is the Philippines' fastest-growing farm-to-table platform with over 7,000+ farmers, 8,000+ B2C customers, and a solid B2B portfolio including the likes of Shell, Ayala Foundation, WalterMart, Kopiko, Healthy Options, UCC Group, Amici, and Cara Mia, among others. Mayani is dedicated to fulfilling the vision of a Philippines where smallholder farmers lead better lives by changing how people buy their food through e-commerce.

Beneficiaries: <https://youtu.be/WPRP-2xaylc>

2. Veggies for Good - <https://www.facebook.com/Veggies4GoodPH/>

**Veggies for Good** is a social enterprise that believes in fair prices for farmers, sustainable work for nanays and tatays, decent pay for riders, and fresh fruits and veggies delivered to you at affordable prices.

3. AGREA - <https://www.agrea.ph/>

**AGREA** is an innovative, inclusive, for purpose, agri-business that is founded on sustainable agriculture, fair-trade, and replicable model of an agri-based economy.

AGREA is focused on making the Philippine archipelago to be agriculturally sustainable built on the One Island Economy model guided by three major goals: Zero Hunger, Zero Waste and Zero Insufficiency

4. Tanging Yaman Foundation - <https://tangingyaman.org/>

**Tanging Yaman Foundation, Inc. (Tanging Yaman)**, a non-profit Philippine organization.

Tanging Yaman believes in two things: first, the transforming power of the biblical “widow’s mite,” and second, the grace of God who blesses our every effort at helping our brothers and sisters in need. Tanging Yaman’s belief is rooted in its experience of raising funds for the typhoon victims in Quezon and Albay provinces in 2004. Small contributions worth 5 or 10 dollars from different communities in the United States as a response to Fr. Manoling’s plea for Filipinos abroad to help their kababayans have generated enough amounts to help in the relief and rehabilitation of the peoples in the said areas. Now, Tanging Yaman serves as a conduit between the donors, farmers and fisherfolk in the distribution of rice, fresh produce and seafood.

#### Improved Planning

1. Insight SCS - <https://www.insightscs.com/>

**Insight SCS Corporation** provides software-as-a-service (SaaS), transport services, and financing services. Transport and financing services are provided through their partners which are closely integrated to their Insight Product Suite for data visibility and transactions processing.

2. Agrabah Ventures - <https://www.facebook.com/AgrabahVentures/> (<http://agrabah.ph/>)  
**Agrabah Ventures** is an agri-trade end-to-end company that empowers Filipino farmers to earn fair and steady profit by fostering connections between farmers and potential partners. One of the services they provide is Agrabah Finance. Agrabah Finance is a platform tailored to serve farmers and fisherfolks. Agrabah Finance compares financial products from various lending sources. It has tools for comparing Agri loans, Agri bridge finance, insurance, and other services. Agrabah Finance provides banks with KYC that automates their profiling and verification of lenders. It is also integrated with Agrabah Wharf, a trading platform that farmers can use to sell their produce. The data gathered through the trading platform is used to create a risk rating so that lending institutions can now assess risk.
  
3. Bayan-Anihan - <https://www.facebook.com/bayananihan/>  
**Bayan-Anihan** connects family farms to market through transformative partnerships. Works under the wing of Gawad Kalinga ([www.gk1world.com](http://www.gk1world.com)).
  
4. Agro-digitalPH - <https://www.agro-digitalph.com/>  
**Agro-digitalPH** provides value chain solutions for cooperatives and small farmer organizations. It is a digital solution harnessing the power of social organization i.e. cooperatives, associations, or even local government units to galvanize intent and process standards. The solution enforces consistency ensuring farmers reap the same expected results - all the time. It leverages economies of scale by consolidating demand, synchronizing production, and coordinating fulfillment. There is indeed strength in numbers when individual farmers join hands to fulfill commitments requiring large volumes and consistent quality. It provides direct access to the market, espousing fixed price, fixed term contracts that see farmers' produce through fair eyes. Reducing instances of margin-on-margin increases farmers' revenues and, at the same time, enables consumers to enjoy better prices.

## Improving Food Production

### Fortification

1. NVC Foundation - <https://www.nvcfoundation-ph.org/>  
**Negrense Volunteers for Change (NVC) Foundation's** mission is to fight hunger and poverty by providing proper nutrition for poor children, as well as sustainable livelihood opportunities for their parents. Focus of the projects is in nutrition, education and livelihood. Mingo meals, Love Bags and fishing boats have been distributed by NVC.
  
2. FNRI - <https://www.fnri.dost.gov.ph/>  
**Food and Nutrition and Research Institute (FNRI)-DOST's** mission is to fight malnutrition through accurate data, correct information and innovative technologies. Its mandate is to (1) Undertake researches that define the citizenry's nutritional status, with reference to the malnutrition problem, its causes and effects; (2) Develop and recommend policy options, strategies, programs and projects

for implementation by appropriate agencies; and (3) Diffuse knowledge and technologies in food and nutrition and provide S&T services to relevant stakeholders.

#### Traceability

1. SimpleAgri - [http://eng.simpleagri.com/?page\\_id=783](http://eng.simpleagri.com/?page_id=783)

**SimpleAgri** is a cloud based platform that promotes sustainable agriculture, for higher levels of productivity and profitability, through detailed cost control, agricultural and phytosanitary crop management. SimpleAgri's team will work with the agronomist team of the company, to understand the processes implemented on the farm, and do an assessment on the adequate technology to be implemented, to guarantee an improvement in the operation and have important changes throughout all the different phases of the crop. They will design, develop and structure a plan to create a solid base information related with operational cost, crop and plague and disease management, as well as with nutrition.

2. SourceTrace - <https://www.sourcetrace.com/>

**SourceTrace's** food traceability system provides unparalleled visibility and transparency to the value chain. With touchpoints across every stage – from farm to retail – the food traceability software enables tracing back the provenance of the produce to its origin, with details of farmer, farm location, date and time of harvest as well as and complete visibility into logistics, conditions of storage, chain of custody and more.

#### Farm-to-Table

1. Tagani - <https://tagani.org/> (<https://www.facebook.com/tagani.org/>)

**Tagani** is a digital agriculture company that provides interested farm-business owners a turnkey farm business solution, farm management services, and training.

2. UPROOT - <https://uprooot.ph/>

**UPROOT** is a For Purpose Enterprise that aims to provide local communities access to healthy, fresh and nutritious produce especially at this most critical time. Through partner farmers, Uproot ensures the continuous flow of food to the Metro.

3. GrowQC - <https://quezoncity.gov.ph/program/grow-qc-open-spaces-as-food-source/>

**The GrowQC** Program goes beyond setting-up more urban farms, but hopes to achieve a food secure and self-reliant city through the development of better food systems, establishment of possible agricultural zones, and food zones, and achieve SDG#2: Zero Hunger.

4. Good Greens - <https://goodgreens.co/>

**Good Greens** aims to bring farm-fresh, high-quality produce into urban communities. Its mission is to reduce the long and difficult process of getting farm fresh produce into homes. By creating farms in communities that need it the most, Good Greens fills the gap within the farming industry that makes it difficult to get it to consumers.

## Refining Inventory Management

### Cold Chain

1. Zagana - <https://www.zagana.com/home>

**Zagana** is an online platform for fresh fruits and vegetables direct from local farmers here in the Philippines. It is a social enterprise that aims to uplift the lives of Filipino farmers, give consumers an access to safe and healthy goods, and deliver high quality and guaranteed fresh produce from farm to kitchen.

### Logistics & Warehousing

1. Delbros Group - <http://www.delbros.com/> (<https://www.linkedin.com/company/delbros-group>)

**Delbros Group** is a logistics and supply chain. It is a family-owned business led by Jose Paulo Delgado who continues to challenge the mainstream concerns about logistics and agriculture development.

2. Safexpress - <http://www.safexpress.com.ph/>

**Safe Express Logistics** provides the highest level of warehousing and transport services by committing to safe and timely deliveries, as well as offer fair and competitive pricing to clients. Services provided include transport services and management, warehouse management (cold and dry), distribution management (FG and RM), reverse logistics, MHE rentals, and build to suit warehouse facilities.

3. Grab - <https://www.grab.com/ph/business/transport/>

**Grab** helps teams be more efficient, improve productivity, automate company policies and digitize payments to make it seamless to book and take business rides. All managed via the Grab for Business portal.

4. 7-Eleven - <https://www.7-eleven.com.ph/>

**7-Eleven's** mission is to make daily life easier by providing modern convenience. With overs 2,000 franchise stores all over the Philippines, presence is felt in almost every municipality.

### Dynamic Pricing

1. Feastsaver - <https://feastsaver.com/>

**Feastsaver** is the Philippines' first sustainable food app that allows users to rescue perfectly good food from being thrown away. This is done by partnering up with food and beverage establishments as well as local farms, who upload their special offers online.

## Maximizing Product Utilization

### Shelf-life extension

1. Future Fresh - <https://futurefresh.ph/>

**Future Fresh** designs and builds its own farm systems to their specifications. They are urban farmers who grow nutritious food as close to the customer as possible. Their fresh produce is grown safely in a clean, controlled environment that is pesticide-free and farmed hydroponically in a sustainable way. It is unaffected by climate changes and with less food miles to travel from the farm to the end-consumer, the produce does not lose its freshness, taste or nutritional value.

### Reshaping Consumer Habits

#### Meal Kits

1. Gising Gising - <https://www.gisinggising.ph/>

**Gising Gising** aims to enable the country's vegetable growers and pave a straight path for local produce to reach more people. Through Gising Gising, customers can help battle food insecurity just by purchasing their daily or weekly supply of vegetables. It removes redundancies by circumventing traditional channels in the current vegetable supply chain and redirecting unnecessary costs has enabled the social enterprise to come up with a unique sharing model that can help feed the hungry at no extra cost to the customers.

2. Good Food Co - <https://www.goodfoodcommunity.com/>

**Good Food Co** is an alternative food system based on ethical and ecological farming that transforms consumers into co-producers. It started in 2011, navigating the world of deliveries, Sunday Markets, and eCommerce because of the belief in supporting small-holder farmers.

#### Education

1. Mesa Ni Misis - <https://mesanimisis.com/>

**Mesa Ni Misis** promotes the health benefits of local vegetables by creating delicious, affordable recipes for the whole family. All the programs are designed to make healthy eating affordable and accessible to all.

2. BNS - <https://www.facebook.com/bnsfed.ncr/>

A **Barangay Nutrition Scholar (BNS)** provides nutrition services to households with children 5 years and below, malnourished children, pregnant and lactating women, and senior citizens. We may know BNSs as the ones going on house-to-house visits regardless of the weather. They are relentless in accomplishing their task to locate and identify malnourished children through the Operation Timbang Plus program. They are our nutrition information banks in the barangay; may it be masterlists of malnourished children, pregnant and lactating mothers, or existing nutrition interventions; you name it, and they can give it to you. We know them as community mobilizers, linkage-builders, and advocates for nutrition

## Enhancing Food Distribution

### Feeding Programs

1. Caritas Damayan - <https://www.caritasmanila.org.ph/caritas-damayan/>  
**Caritas Damayan** is the preventive health and disaster management program of Caritas Manila. Damayan provides emergency assistance for 50,000-100,000 families every year. Programs include alternative livelihood assistance, post-disaster redevelopment planning, activation of disaster and health teams, mobilization of damayan fleet, parish land community-based disaster risk reduction and management, emergency first responder management training, preventive and promotive health, and community-based participatory health promotion.
2. Kusina ng Kalinga - <https://www.gk1world.com/kusinangkalinga-model>  
**Kusina ng Kalinga** is a campaign to end hunger by caring together. The KnK Model operates on the template of hard work and heart work to put smiles and deliver lunch meals everyday.

### Carinderia

1. Kasagana-Ka - <https://www.kcoop.org.ph/>  
Kabuhayan sa Ganap na Kasarinlan Credit & Savings Cooperative (KASAGANA-KA COOP/K-COOP), is a cooperative duly registered under the Cooperative Development Authority on February 2016. It aims to help improve the quality of life of its members in urban and peri-urban communities through authentic economic and social empowerment using microfinance as a strategy for its members to gain access to collateral-free credit for self-help activities.
2. City of Malabon - <https://malabon.gov.ph/>  
The “Karinderia para sa Kalusugan ni Chikiting (KKC) is a program in the City of Malabon where carinderia owners provide nutritious hot meals to undernourished children aged 6 to 59 months for 120 days.

## Strengthening Food Rescue

### Donation Coordination

1. Philippine Foodbank Foundation - <http://foodbank.org.ph/>  
The **Philippine Foodbank Foundation Inc.** aims to distribute these products to the marginalized utilizing parishes, the religious, orphanages, schools & charitable institutions as their partners to reach the grassroots.

2. **Better World Tondo** - <https://www.sanmiguel.com.ph/page/better-world-tondo>  
The **Better World Tondo** center aims to provide the poorest barangays of Manila access to food as well as the tools to allow them to improve their lives. They will be provided with canned goods, fresh produce such as vegetables as well as cooked food. It aims to be able to collaborate with businesses and companies to collect excess food, store them in a food bank, to be served to those in need by community volunteers. Its food rescue to address hunger, which is still a major problem for many sectors of our society.
3. **Food Rescue Philippines** - <https://www.facebook.com/foodrescuephilippines/>  
**Food Rescue Phils** rescues edible food surpluses from markets and food companies and redistribute it to charity.

### **Recycling Anything Remaining**

#### Composting

1. **GreenSpace** - <https://greenspace.ph/>  
**GreenSpace** is a Food Waste Composting Company that helps divert food wastes away from the landfills and into urban areas where healthy soil is produced and local food production is supported.

#### Waste-derived Agri Inputs

1. **Department of Agriculture** - <https://www.facebook.com/organicagricultureph/>  
RA 10068 or the Organic Agricultural Act of 2010 mandated the development and promotion of organic agriculture in the Philippines.

### **Research, Policy, Advocacy, Funding, and Convening**

1. **PBSP** - <https://www.pbsp.org.ph/>  
**Philippine Business for Social Progress** is the largest business-led NGO and operates at the nexus of corporate citizenship, sustainable development, and poverty reduction.
2. **DLSU Kada Uno**- <https://www.dlsu.edu.ph/>  
**De La Salle University** is committed to being a resource for Church and nation and to being socially responsible in building a just, peaceful, stable, and progressive Filipino nation.
3. **ACED** – <https://www.ateneo.edu/socdev/aced>  
The **Ateneo Center for Educational Development (ACED)** was established in 1997 to spearhead the the Ateneo de Manila University’s mission to close the poverty gap and improve quality of life among the poor through improving public basic education in scale. ACED aims to move up the performance of public schools facilitating partnerships with individuals and institutions to marshal human and material resources to support its mission.

4. Zero Hunger Lab - <https://www1.zerohungerlab.com/>  
The **Zero Hunger Lab** is a cross-disciplinary network of food security and nutrition advocates and experts, including government workers, clinicians, engineers, policy, public health, and private sector actors along the healthcare and governance value chains.
5. PinoyME - <https://www.facebook.com/PinoyME.Foundation/>  
**PinoyME**, which stands for "Filipino Microenterprises", is a social consortium of Filipinos that believes that industry and unity is key to helping our people move out of poverty.
6. Rare - <https://rare.org/>  
**Rare** is the global leader in social change for the environment. They have helped thousands of people across hundreds of communities in over 60 countries shift their behaviors and practices to protect the nature that sustains their lives, livelihoods, and communities.
7. Gawad Kalinga - <https://www.gk1world.com/home>  
**Gawad Kalinga** is building a nation empowered by people with faith and patriotism; a nation made up of caring and sharing communities, dedicated to eradicate poverty and restore human dignity.
8. Pilipinas Kontra Gutom - <https://pilipinaskontragutom.com/>  
**Pilipinas Kontra Gutom** is a multi-sectoral movement founded to help eradicate hunger and malnutrition in the Philippines by 2030. It is the collective effort of the government, NGOs, the academe and the private sector to address the root of the nation's concerns on hunger – striving to improve food production and distribution, to repurpose food surplus, to curb malnutrition and to reduce hunger incidences caused by crises.
9. IISLA - <https://iislaventures.com/>  
**IISLA** is a social enterprise that embodies holistic values and strong beliefs that collectively we can create an equitable world where people from diverse backgrounds and locations have the same opportunities.
10. Rise Against Hunger - <https://riseagainsthungerphilippines.org/>  
**Rise Against Hunger** is an international hunger relief organization that distributes food and life-changing aid to the world's most vulnerable, mobilizing the necessary resources to end hunger by 2030.
11. WWF-Philippines - <https://wwf.org.ph/>  
**WWF-Philippines** works on parallel national programs that aim to conserve biodiversity while managing the human footprint through the promotion of sustainable development.