Options to address the climate-nutrition nexus in the Philippines

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Summary: current status

The Philippines has high exposure to current climate risks (**ranked 8th in the world**) and is projected to face even greater future risks to human health and food systems.

The nation is performing strongly on climate mitigation (**ranked 7th in the world**) but is the world's worst performer on plastic waste, with negative effects on both human health and climate adaptation.

Dietary diversity in the Philippines could **be increased**. Diets are high in nutrient-poor energy-rich foods, and low in fruit and vegetables.

Non-communicable diseases related to **poor diets and obesity** are the main cause of death. More than a quarter of adults are obese. There is some progress on child stunting, but not on wasting.

Summary: priority options for action

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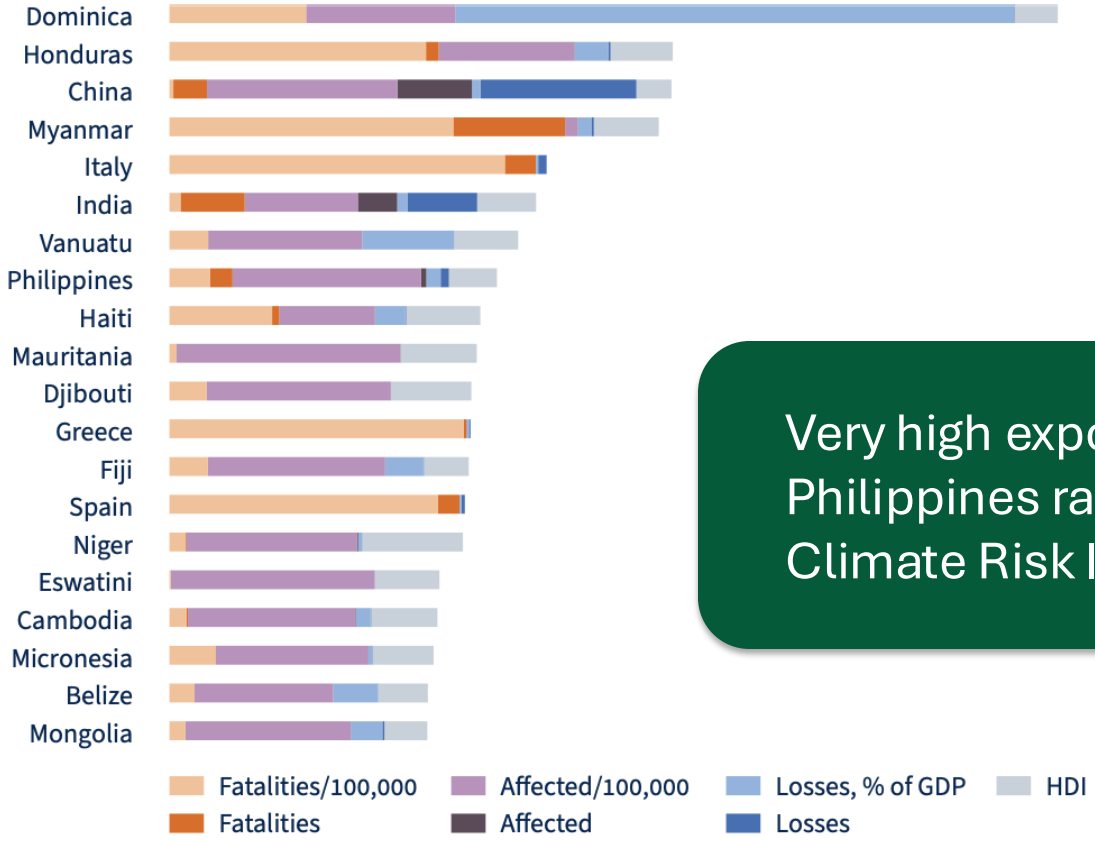
1 Climate risks, adaptation and mitigation

Climate risks already experienced



Very high exposure and impacts: the Philippines ranked **8th in the world** on Climate Risk Index over 1993-2022

Germanwatch 2025

Increasing climate risks projected to 2100

- Increase in mean temperature **up to 2.9ºC** relative to pre-industrial[1], affecting both people and livestock.[2]

- Seasonal rainfall volumes will exceed historical averages **by about 40%**, meaning drier dry seasons and wetter wet seasons. High exposure to flooding in rice and vegetable production zones. Geographically variable effects on crop yields for rice, bananas and vegetables.[2]

- Increase in both **intensity** and **frequency** of tropical storms (typhoons).[1,2]

- Sea-level rise, storm surges, and saltwater intrusion will impact coastal and freshwater fisheries[2] and **about 1 million people** will be displaced by sea-level rise.[1]

[1] WB & ABD 2021; [2] ABC & WFP 2021

Climate vulnerability & adaptation potential: medium & improving

ND-GAIN Ranking since 1995 **Philippines**

Year	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Ranking	131	130	130	129	134	133	130	129	131	132	128	136	133	136	134	136	130	125	117	115	118	124	125	127	126	120	117	117	116

The Philippines **ranks 116 among 187 countries** in the ND Gain index and shows consistent improvement over time.

Explanatory note: The ND-GAIN Country Index summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience.

Greenhouse gas emissions & mitigation: mixed performance

The Philippines **ranks 7 among 64 countries/blocs** in the Climate Change Performance Index (high performance).

Explanatory note: The CCPI uses a standardized framework to compare the climate performance of 63 countries and the EU (together 90% of global emissions) across four categories: GHG emissions, renewable energy, energy use and climate policy.

However, the Philippines is also the world's number one producer of **plastic waste**, largely from the food & beverage sector – a major challenge for climate mitigation and adaptation, as well as for healthy diets.

Spotlight on plastic waste

The Philippines is responsible for an estimated **36% of oceanic plastic waste** (the next highest polluting country, India, is at 10%). **Seven out of the world's 10** most plastic-polluted rivers are in the Philippines.[1] The primary source of plastic pollution in the Philippines is single-use sachets – **163 million** are thrown away every day.[2] This is a major problem in the climate-nutrition nexus in the Philippines, as follows:

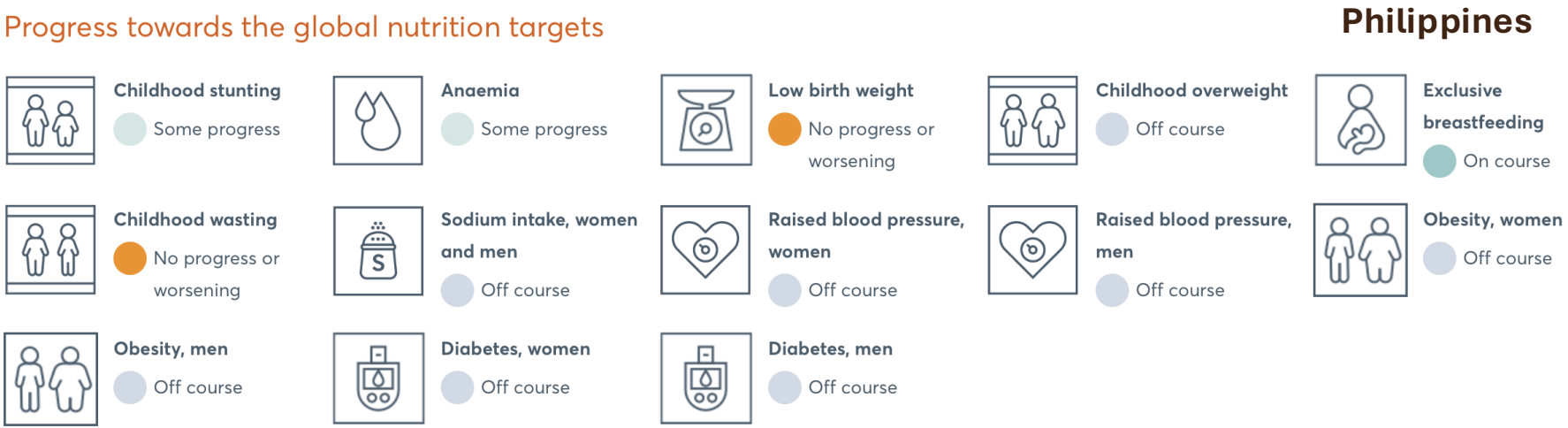
Nutrition: a. Association with unhealthy foods, e.g. the Philippines' top use for sachets is '3-in-1 coffee', an 85% sugar, low-nutrition, ultra-processed beverage that is a large source of daily energy intake for many adults.3 b. Food safety risks, e.g. the Philippines is 3rd in the world for human ingestion of microplastics, including in breast milk.4

Climate: a. Impacts: whenever a typhoon strikes (e.g. 6 major typhoons at the end of 2024, with more and worse projected in future years5), plastic debris overwhelms drainage infrastructure and contributes to severe flooding in Metro Manila and other cities.6 b. Emissions: plastic packaging is also an outsized source of greenhouse gas emissions in countries with high intake of ultra-processed foods.7

[1]Meijer et al 2021, [2]WB 2021, [3]Monato 2025, [4]Zhao & You 2024, [5]Merz 2024, [6]CCC 2024, [7]Rockstrom et al 2025

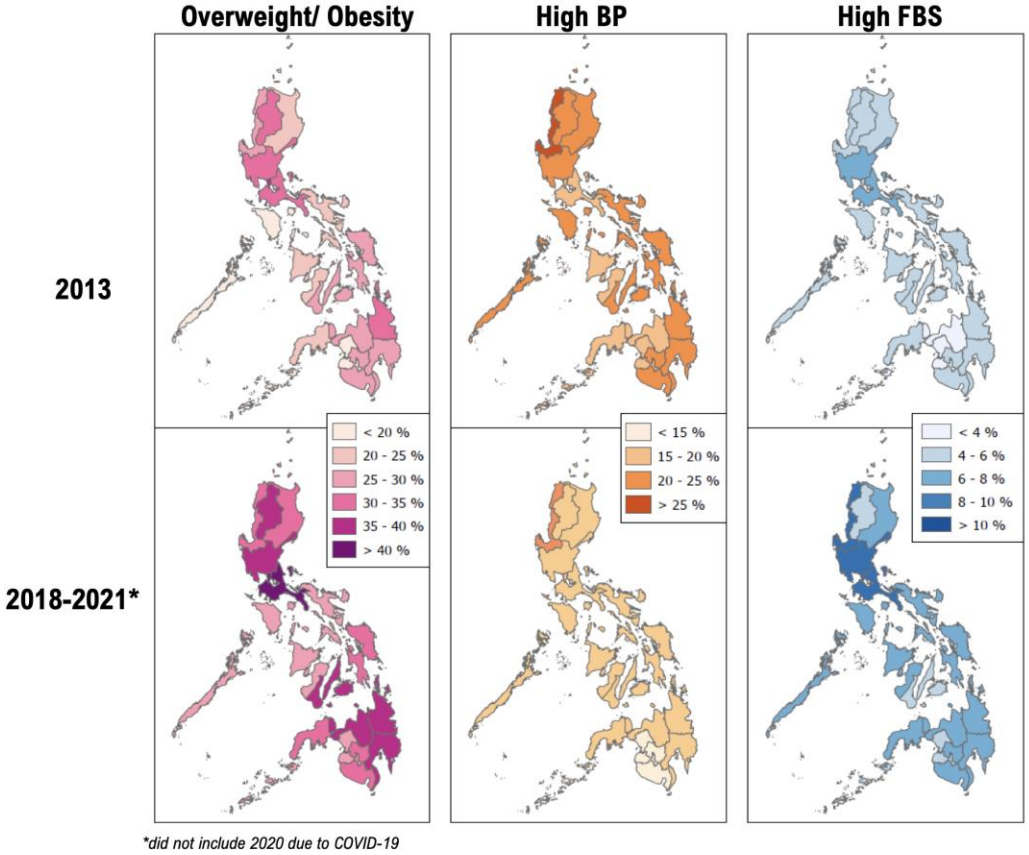
2 Diets and health outcomes

Mixed progress towards global nutrition targets



Obesity is rising fast, particularly among adults and adolescents. More than a quarter of adults are now obese. There is some progress on child stunting, but not on wasting.

Health outcomes from poor nutrition



*did not include 2020 due to COVID-19

Cardiovascular diseases are the leading cause of death in the Philippines (68%)[1] strongly related to dietary risk factors.

Rising incidence of **obesity** and **fasting blood sugar** (FBS) are also linked to diabetes.

In better news, programs to tackle **high blood pressure** (BP) seem to be making a difference.

[1]*NCD 2025*
Maps: Golloso-Gubat et al. 2025

Diets are high in nutrient-poor energy-rich foods, and low in fruit and vegetables

- Across all wealth classes, **dietary diversity should be improved,** as high intakes of energy-dense, nutrient-poor foods (e.g. refined rice and sugar-based foods and beverages) are common. Micronutrient intakes are inadequate.[1]
- **Intakes of F&V are extremely low** for all (average is less than one serving per day) – but higher among poor households than richer households (who have higher consumption of animal foods and fats).[1]
- 45% of Filipinos faced **moderate or severe food insecurity** between 2021-2023, the highest rate in Southeast Asia.[2]

[1]*Angeles-Agdeppa 2021, Siy Van et al 2021, Smith 2024*
[2]*FAO et al 2023*

Diets are becoming less diverse

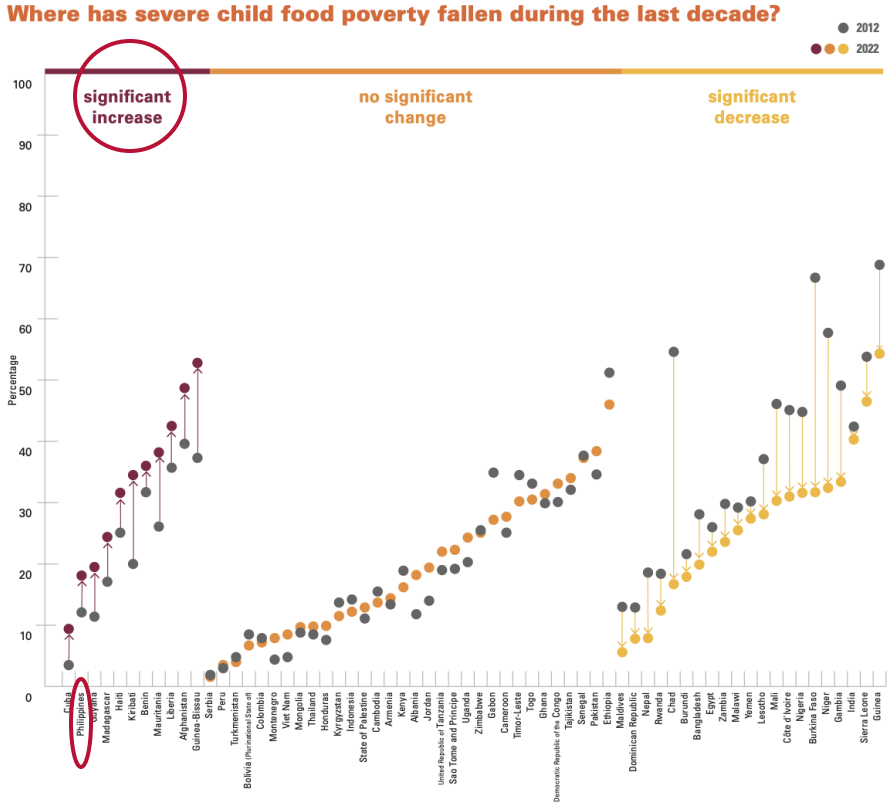


FIGURE 6: **Percentage of children living in severe child food poverty in 2012 and 2022, by country**

Source: UNICEF global databases, 2023.

In 2022, 18% of Filipino children lived in **severe food poverty** (= a very low diversity diet), a significant increase from 13% in 2012. Fewer than 10% of these children are fed fruits and vegetables. Fewer than 5% are fed nutrient-dense foods such as eggs, fish, poultry, or meat. Yet 20% ate unhealthy foods and sweetened beverages in the last day.

Child food poverty is measured using the UNICEF and World Health Organization (WHO) dietary diversity score. To meet the *minimum dietary diversity* for healthy growth and development, children need to consume foods from **at least five out of the eight** defined food groups.

If children are fed:	**0–2 food groups/day** they are living in **severe child food poverty**	**3–4 food groups/day** they are living in **moderate child food poverty**	**5 or more food groups/day** they are **not living in child food poverty**

Breastmilk | Grains, roots, tubers and plantains | Pulses, nuts and seeds | Dairy products | Flesh foods (meat, poultry and fish) | Eggs | Vitamin A-rich fruits and vegetables | Other fruits and vegetables

Spotlight on online food marketing to children

Filipino children and adolescents are avid users of social media – more than **6 hours a day** is not unusual[1] – and **93% of 11 to 17 year olds** are physically inactive, which is more than any country in the world except South Korea.[2]

A 2021 study found that Filipino **social media is almost 100% saturated with marketing for unhealthy foods and beverages**: 99% of promoted foods would be forbidden from advertising under WHO guidelines. About three-quarters of the advertising and promotions are specifically targeted at children and adolescents. Children report that they like these food ads, which create emotional associations of fun, love, sharing and health with unhealthy foods, using the star power of local sporting and media celebrities.[1]

[1]*Tatlow-Golden et al 2021*
[2]*Guthold et al 2020*

3 Policy foundations for action

Policy foundations for action in the Philippines

National development policy

e.g. 2023-2028 Philippine Development Plan, 2020-2030 National Disaster Risk Reduction & Reduction Plan

Climate and environment policy

e.g. 2021 Nationally Determined Contribution, 2023-2050 National Adaptation Plan, 2011-2028 National Climate Change Action Plan, 2015-2028 Biodiversity Strategy and Action Plan

Nutrition and food security policy

e.g. 2023-28 Plan of Action for Nutrition, Philippines Food Systems Transformation Pathway (UNFSS) 2021-2030

Strengths that support action in the Philippines

Active programs to support healthier diets e.g. food-based dietary guidelines since 1990, consumer price controls, subsidised rice for poor households, tax on sugar-sweetened beverages

ASEAN cooperation on food security e.g. ASEAN Integrated Food Security Framework, ASEAN Plus Three Emergency Rice Reserve, ASEAN Food Security Information System, Single Window system

Data sets and analytic power e.g. Philippine Statistics Agency, Philippine Information Agency, Industry Strategic Science & Technology Program Information System (PCAARRD ISP-IS), National Integrated Climate Change Database Information and Exchange System

Challenges: implementation fails to match policy intent; gaps in coherence across policies for climate, agriculture & nutrition; much stronger focus on calorie supply than on good nutrition; entrenched culture of political patronage & corporate lobbying

4 Priority options for action

Priority options for action

Four priority domains for action are suggested here as options for multi-sectoral, multi-agency discussion and shared planning.

Rationale for these four options:

- Tough challenges with potential for significant positive impact on health of people and planet
- Speak to most urgent policy priorities in Philippines
- Complex nexus issues that need progress by multiple sectors, disciplines and agencies
- Align with international thought-leadership on the climate-nutrition nexus[1]

[1] *ST4N 2025*

Priority options for action

Priority options for action on climate-nutrition nexus in the Philippines

Promote consumption of diverse unprocessed foods

Stop promoting foods unhealthy for people and planet

Quit the sachet economy and reduce plastic pollution

Support climate-smart production & value chains for healthy foods

Promote consumption of diverse healthy foods (1/4)

Rationale: The demand-side needs to be tackled first in the Philippines. For example, vegetables are plentiful but not aspirational (supply is 400g per capita per day, but consumption is below 70g, and rich people eat the least).

Benefits for nutrition: Broad benefits for micronutrient sufficiency, avoidance of non-communicable diseases.

Benefits for climate adaptation: Diverse diets based on diverse production expected to be more resilient to climate change.

Benefits for climate mitigation: Lower-C foods and packaging.

Promote consumption of diverse healthy foods (2/4)

Range of potentially impactful interventions:

- Build universal accessibility of healthy foods, for example as default option in majority of food outlets (both urban and rural)
- Continue/enhance consumer subsidies for healthy foods
- Align public procurement for school meals, hospital meals, staff canteens with national dietary guidelines[1]
- Create and promote positive role models and messaging around healthy foods

Critical roles for: PhilHealth, SUN-CSA PH, DA, chefs, local government, media, education community, and many others

[1] *WHO 2021*

Promote consumption of diverse healthy foods (3/4)

Local success that can be scaled out: Quezon City.

In 2019, under the C40 Good Food Cities Declaration, Quezon City committed to:

- Align food procurement policies to the Planetary Health Diet, ideally sourced from organic agriculture
- Support an overall increase in healthy plant-based food consumption and a shift away from unsustainable, unhealthy diets.
- Reduce food loss and waste by 50% from 2015 levels

Quezon City has implemented this by:

- Healthy public food procurement and service (PFPS) policy (2021) delivering healthy meals to hospitals and municipal buildings
- Mandate to restaurants in the city to display calorie counts on standardized menu items (announced January 2025, will come into effect December 2025)

Promote consumption of diverse healthy foods (4/4)

Policy ambitions to scale up: Consumer subsidies and kadiwa stores beyond rice[1], consumer education initiatives, food labelling

Potential perverse outcomes to monitor and manage: Attention to the purchasing power of consumers (rather than reducing food prices) via social protection schemes; and to expectations of greater domestic labour for household cooks especially women

[1] *PIA 2025*

Stop promoting foods unhealthy for people and planet (1/4)

Rationale: As noted, the demand-side needs to be tackled first in the Philippines. Many of the tactics here overlap with those for increasing demand for healthy foods. But more is needed to tackle vigorous marketing of unhealthy foods.

Benefits for nutrition: Avoidance of non-communicable diseases.

Benefits for climate adaptation: Reduce over-reliance on small range of staple inputs to ultra-processed foods (sugar, maize, wheat).

Benefits for climate mitigation: Lower-C foods and packaging.

Stop promoting foods unhealthy for people and planet (2/4)

Range of potentially impactful interventions:

- Taxes on unhealthy ingredients and foods
- Marketing regulations for social media, TV etc, that align with WHO advice and ASEAN minimum standards[1]
- Food labelling
- Public procurement

Critical roles for: Philippine Food and Drug Administration, SUN-CSA PH, PhilHealth, media, education, and many others

Stop promoting foods unhealthy for people and planet (3/4)

Local success that can be scaled out: Taytay Municipality

Ordinance 803 (2024) **regulates the marketing of unhealthy, nutrient-poor food and beverages to children under 18** in Taytay. It is comprehensive in scope, covering chocolate, confectionery, energy bars, sweet toppings, desserts, cakes, other sweet bakery products, dry cake and biscuit mixes, heavily salted snacks such as chips, instant noodles, jellies, ice crushes, slushies, soft drinks, alcoholic drinks, flavored mineral water, energy drinks, sports drinks, tea, coffee, powdered juice drinks, fruit or vegetable juice with added sugar, beverages that contain non-nutritive sweeteners, and any food or beverage product containing partially hydrogenated oils or with industrially-produced trans-fatty acids.[1]

The ordinance applies to local billboards, retail environments, events, playgrounds and schools. It is not clear, however, how it can help to reduce exposure to advertising online and on TV.

[1] *Dayao 2024*

Stop promoting foods unhealthy for people and planet (4/4)

Policy ambitions to scale up:

Tax regimes for sugar sweetened beverages – the Philippines has an SSB tax that raises finance for PhilHealth, but it needs greater ambition[1], as corporate influence has limited its scope and scale[2]
Regulation of media including social media (currently only industry-led codes of conduct)

Potential perverse outcomes to monitor and manage: Industry responses to regulation that continue damage to consumer health

[1]*Monato 2025;* [2]*Huse et al 2023a and b*

Quit the sachet economy and reduce plastic pollution (1/4)

Rationale: **Better management of plastic waste** is a top-line priority for Philippines as the world's largest plastic polluter, with strong benefits across the climate-nutrition nexus.

Benefits for nutrition: Lower consumption of sugar-sweetened beverages and ultra-processed foods and drinks

Benefits for climate adaptation: Less blockage of critical waterways and drainage during storms

Benefits for climate mitigation: Lower emissions from plastic manufacture and waste disposal

Quit the sachet economy and reduce plastic pollution (2/4)

Range of potentially impactful interventions:

- Raise consumer awareness and find alternatives to the tingi-tingi culture (selling small quantities in disposable sachets to minimize daily consumer spending and storage – even though more expensive to consumers in the long-run)
- Biodegradable plastic feedstocks
- Plastic re-use
- More accessible and functional consumer waste management

Quit the sachet economy and reduce plastic pollution (3/4)

Local success that can be scaled out: Bans on plastic bags and/or single use plastics, e.g. Pasig City since 2010, Boracay since 2018, Quezon City since 2025.

Critical roles for: municipal leaders, local civil society, national and international environmental NGOs and technical experts (e.g. Break Free from Plastic), food and beverage industry, SUN-CSA PH, disaster risk reduction agencies, and many others

Quit the sachet economy and reduce plastic pollution (4/4)

Policy ambitions to scale up: Bring smaller businesses into the 2022 Extended Producer Responsibility Law of 2022 (which requires large companies **to fully recover 80% of their waste** by 2028) and enforce the law more strictly[1]. Also, an update to the 2001 Waste Management Act.

Potential perverse outcomes to monitor and manage: Affordability of alternatives to sachets for poor consumers

Support climate-smart production and value chains for healthy foods (1/5)

Rationale: Supply of healthy diets through local robust value chains builds both rural and urban resilience to climate change and improves nutrition both directly (better food) and indirectly (income to buy food beyond staples).

Benefits for nutrition: Higher quality, more affordable supply of healthy foods, improved farmer incomes and livelihoods

Benefits for climate adaptation: Adoption of resilient practices, better use of downscaled climate risk assessments and forecasts

Benefits for climate mitigation: Carbon retention in agriculture and landscapes

Support climate-smart production and value chains for healthy foods (2/5)

Range of potentially impactful interventions:

- **Value-chain development** – both institutions (e.g. marketing groups, credit, food safety protocols[1]) and logistics/infrastructure/roads (e.g. current major government investments in cold chain are positive[2], but even basics such as plastic crates, washing and drying facilities can be deal-breakers[3])
- **Adoption of climate-smart agricultural practices and landscape management**, together with weather forecasts and linked producer advisories (see SARAI and AMIA examples)

Critical roles for: Department of Agriculture, PAGASA4, farmer/producer and food industry associations, research groups, Climate Change Commission

[1]ACIAR 2024, [2]CA 2025, [3]SEARCA 2022
[4]Philippine Atmospheric, Geophysical & Astronomical Services Administration

Support climate-smart production and value chains for healthy foods (3/5)

Local success that can be scaled out (1): AMIA villages

The **Adaptation and Mitigation in Agriculture (AMIA)** Program started in 2013, with 21 AMIA villages across the country. Community-led strategies in each village built local institutions and services (e.g. access to credit, market linkages) alongside:

(a) **Climate risk analysis**, leading to investments in locally appropriate technical responses, such as planting of drought- or submergence-tolerant rice varieties, alternate wetting-and-drying irrigation, rainwater harvesting and agroforestry.

(b) **10-day weather forecasts**, generated from national meteorological services combined with local automated weather stations, and linked advisories on crops, livestock and fisheries, delivered to farmers through town hall bulletin boards, social media platforms and other channels

Lessons include importance of gender mainstreaming, value addition, and farmer-led platforms for experimentation and learning.

Vidallo et al 2019, Enrique et al 2024

Support climate-smart production and value chains for healthy foods (4/5)

Local success that can be scaled out (2): SARAI

The **Smarter Approaches to Reinvigorate Agriculture as an Industry in the Philippines (SARAI)** developed crop advisories tailored for rice, corn, banana, coconut, coffee, cacao, sugarcane, soybean, and tomato, integrating local weather data and drought forecasts with farm management practices, emphasizing nutrient and water management and proactive pest and disease monitoring.

Supportive activities aimed to increase adoption of SARAI systems and technologies through capacity building and communication campaigns, and to institutionalize the SARAI Integrated Crop Monitoring and Forecasting (ICMF) system through policy advocacy and legislative processes.

The research project ended in 2024, but mainstreamed forecasting and advisory work continues.

SARAI 2025

Support climate-smart production and value chains for healthy foods (5/5)

Policy ambitions to scale up: Mainstreaming climate-smart practices and services throughout agricultural policy and public programs.

One vehicle may be the new **Adapting Philippine Agriculture to Climate Change** (APA) under the Department of Agriculture, supported by USD 26M from the Green Climate Fund and USD 13M government co-financing. It aims to reach 1.25M farmers with adoption of climate-smart practices and the development of agri-enterprises.

Potential perverse outcomes to monitor and manage: Lack of mainstreaming, too much focus on high-value niche markets, failure to include value-chain/cold-chain development

Possible next steps for action coalitions

In conclusion, here are some next steps for coalitions of partners that agree to multi-sectoral, multi-agency discussion and shared planning to advance the climate-nutrition nexus in the Philippines:

1

Identify which of the four options, or smaller sets of actions within these, offer the most leverage (in light of current policy players, spaces and processes in the Philippines)

2

Identify and commit to roles for different partners

3

Plan and agree to some near-term milestones

About this slide deck

This slide deck was developed under the Nutrition-Climate Game-Changers project as an input to the **Roundtable on 'The Philippines' Path to Climate-Resilient and Nutrition-Secure Food Systems'** hosted in Manila, the Philippines, on 18 September 2025, in partnership with IIRR and the SUN Movement Secretariat Asia. The project is funded by the German Federal Ministry for Economic Cooperation & Development (BMZ) and the European Union (EU). It is being carried out by Clim-Eat and implemented with support of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. The publication does not necessarily reflect the views of the BMZ, the EU or GIZ.

Please contact **Leanne Zeppenfeldt** (**leanne@clim-eat.org**) for more information on this workstream.

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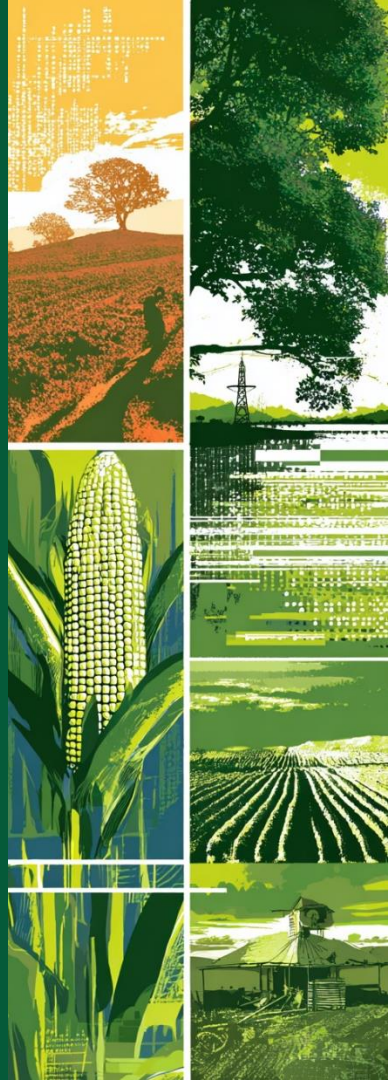

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