



ASEAN FOUNDATION



ASEAN
DATA SCIENCE
EXPLORERS



A CATASTROPHE ON YOUR PLATE

CONNECTING SURPLUS TO SUSTAINABILITY IN ASEAN



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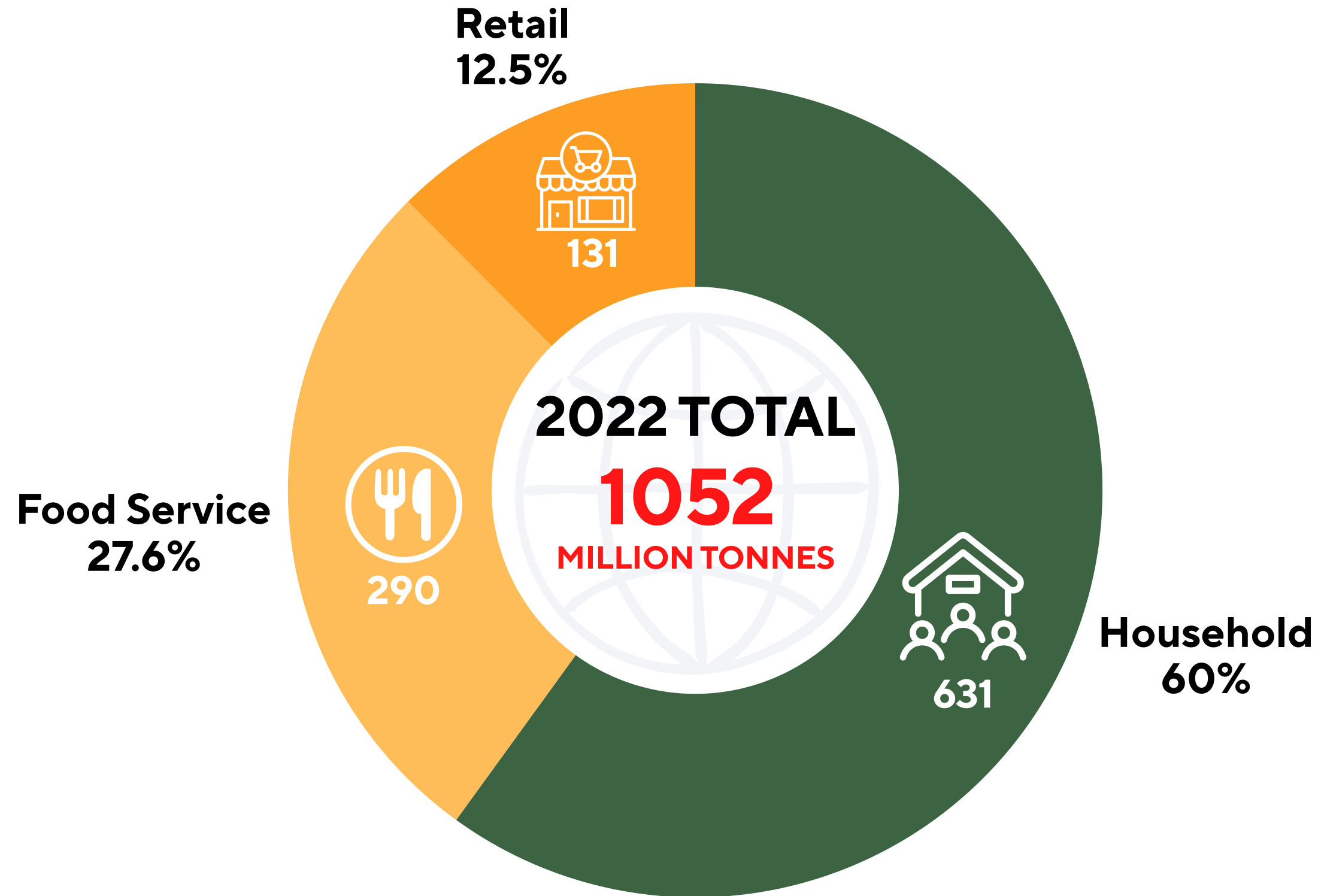
The Paradox We Live With

It is not a scarcity crisis, it is an allocation catastrophe where mountains of edible food are wasted in one part of the city while tables sit empty in another.

The State of Food Waste Worldwide



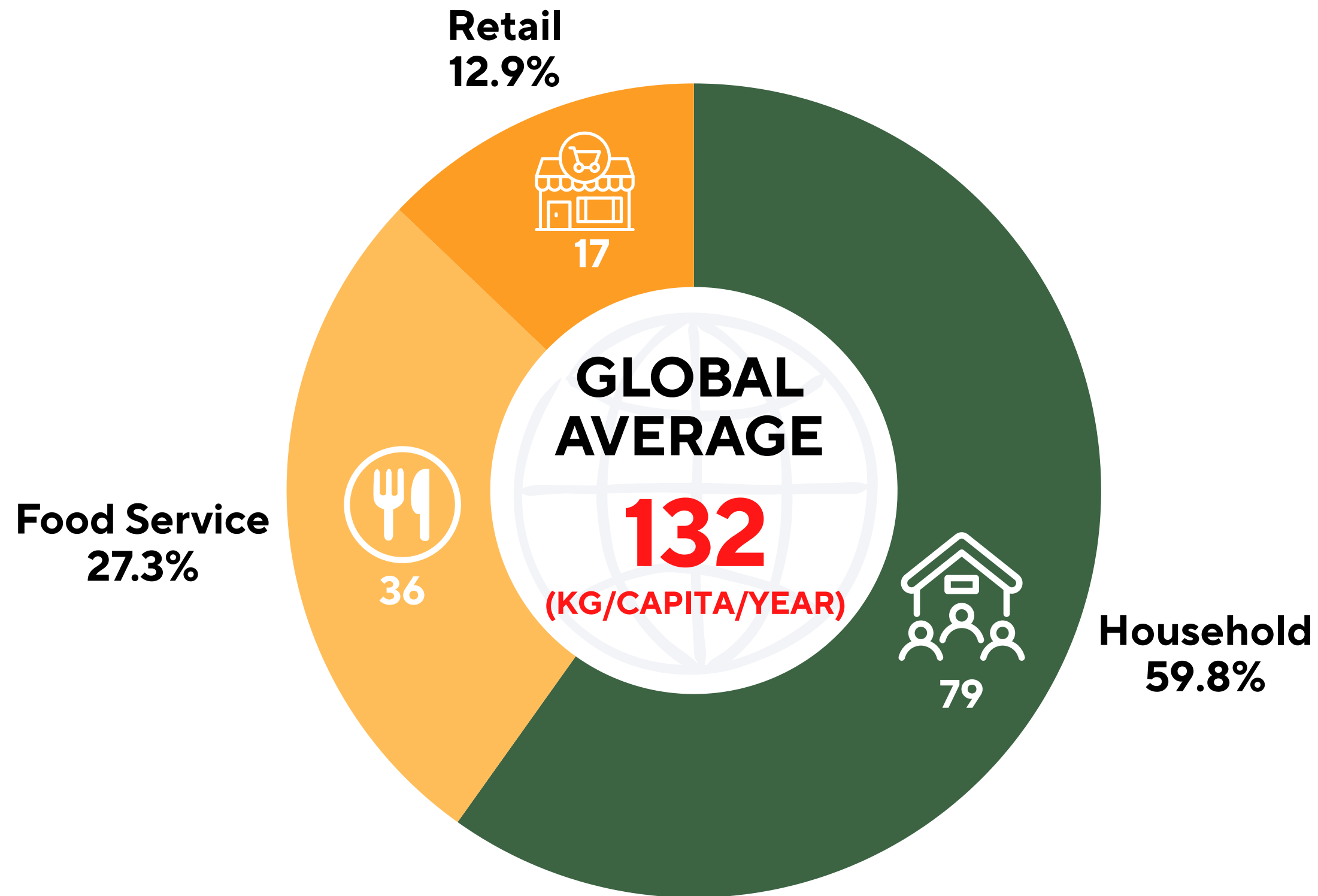
HOW MUCH FOOD IS WASTED GLOBALLY?



The State of Food Waste Worldwide



HOW MUCH FOOD IS WASTED GLOBALLY?

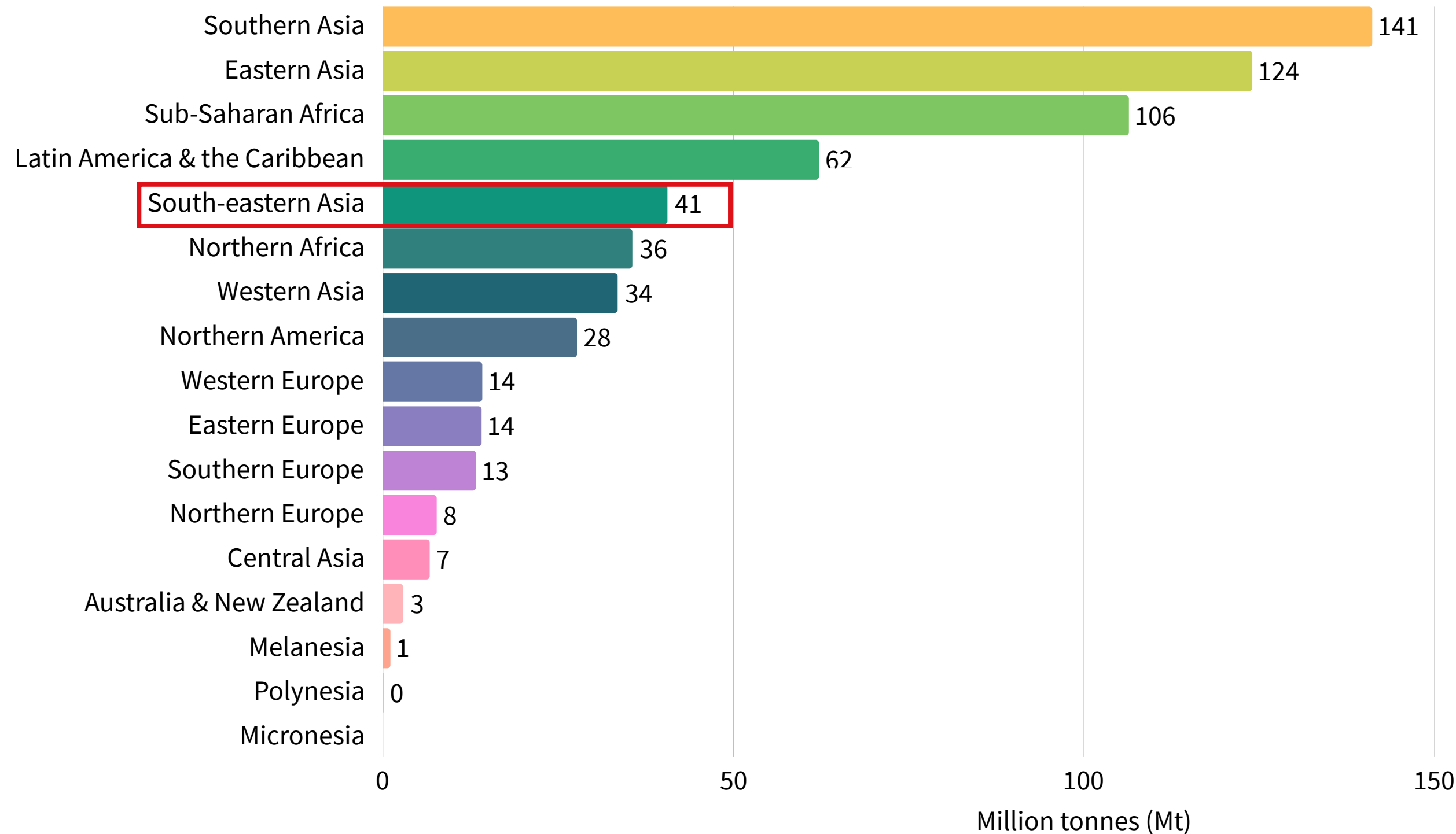


The State of Food Waste in ASEAN



HOW MUCH FOOD IS WASTED IN ASEAN ALONE?

Food Waste by UN Subregions 2022



**South-eastern Asia
generated 41 Mt
of food waste in 2022**

6.5%

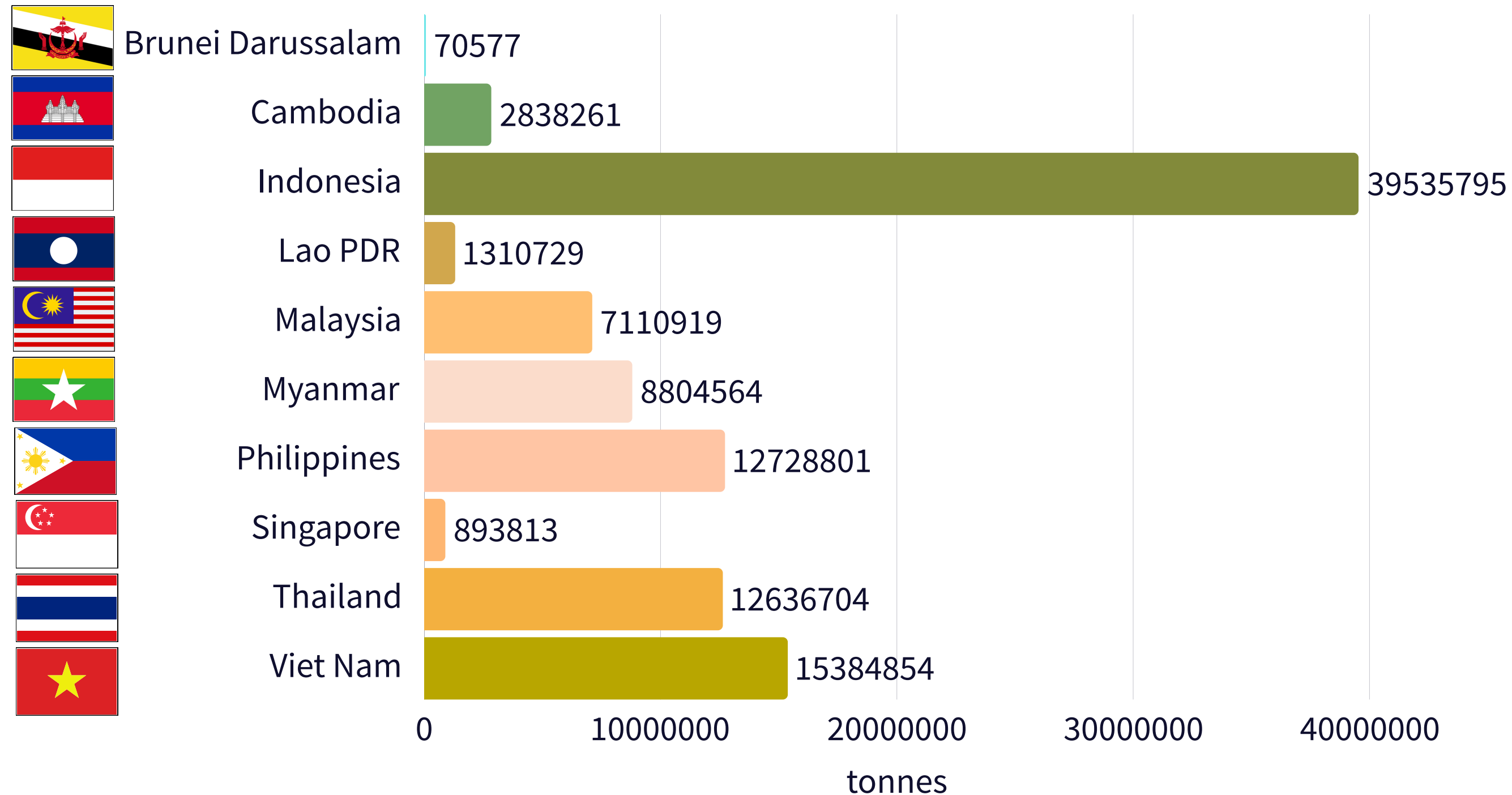
of the global total

The State of Food Waste in ASEAN



HOW MUCH FOOD IS WASTED IN EACH ASEAN COUNTRY?

ASEAN Food Waste Total 2022



Indonesia alone
accounts for
~39%
of ASEAN's food waste

Do you know what is the difference between FOOD LOSS and FOOD WASTE?

Where Food Gets Lost or Wasted



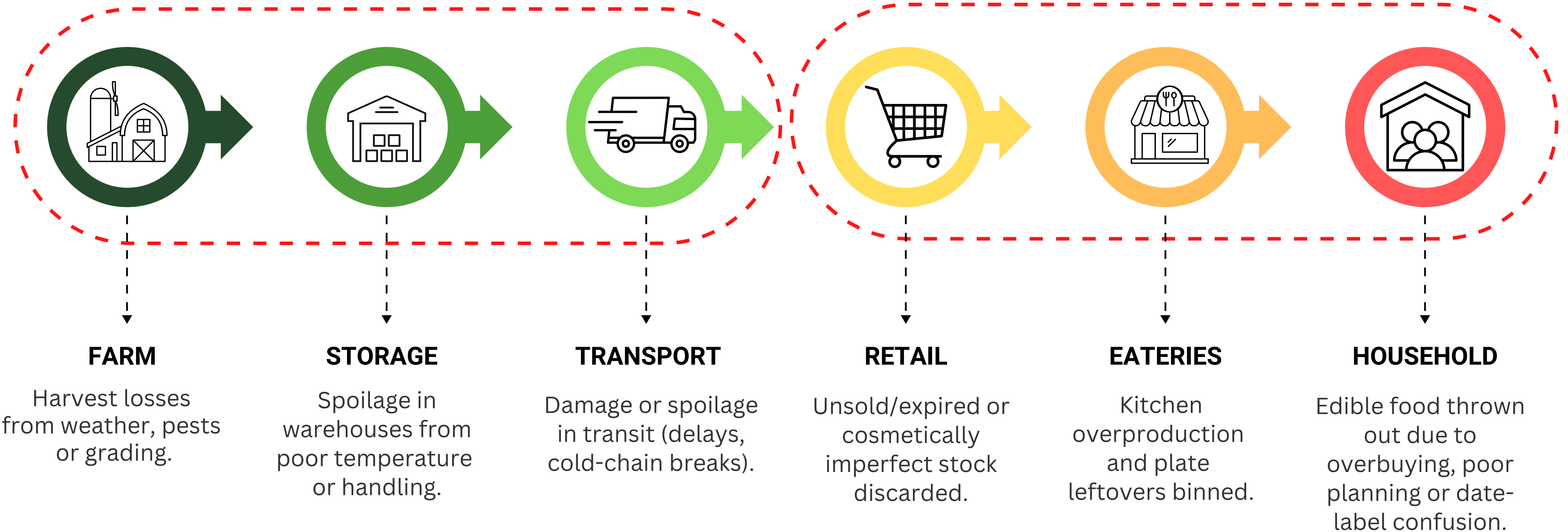
SAME PROBLEM, DIFFERENT POINTS IN THE CHAIN

FOOD LOSS

(Happens before food reaches the market)

FOOD WASTE

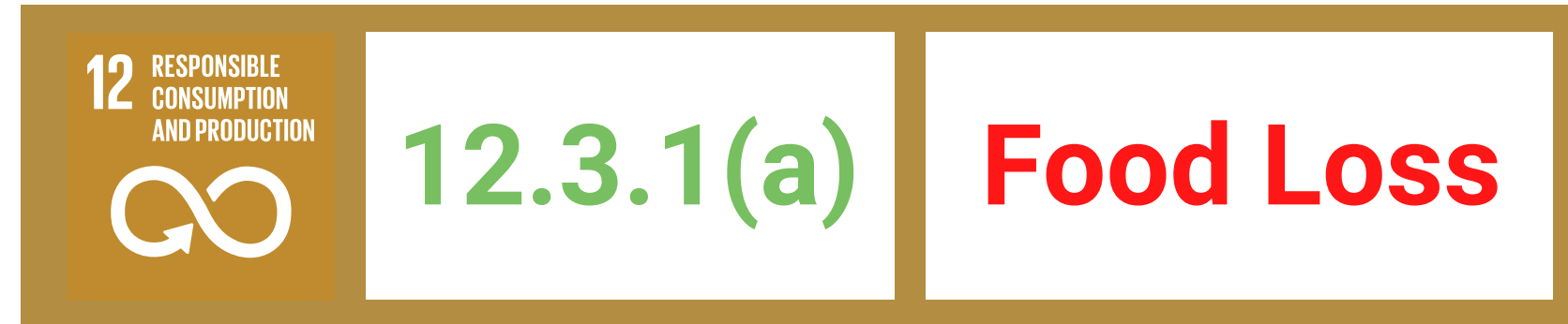
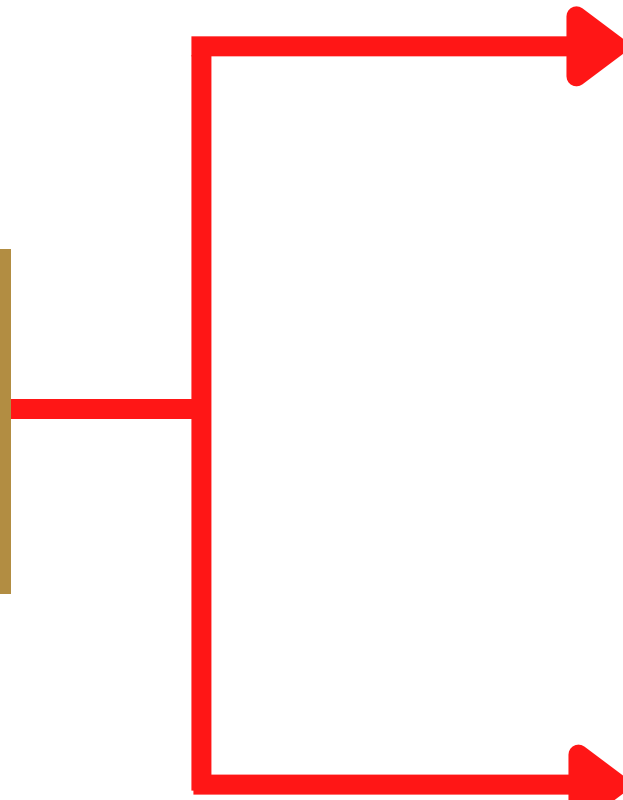
(Happens at the retail and consumer level)



Custodians of 12.3 Indicators

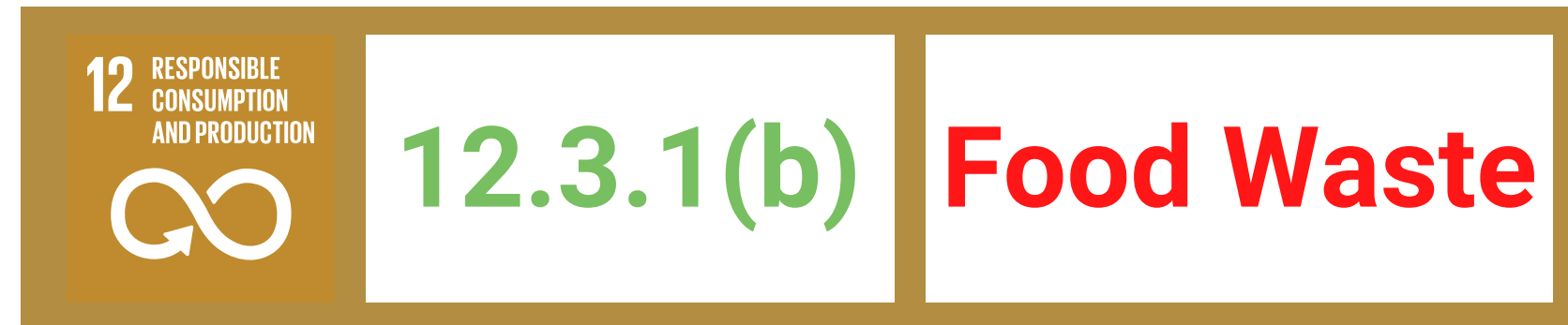


FAO & UNEP



**Food Loss Index:
focus on supply**

“... reduce food losses along production and supply chains including post-harvest losses.”



**Food Loss Index:
focus on demand**

“... halve per capita global food waste at the retail and consumer levels.”

Food waste is not just a social problem, it's a climate problem.

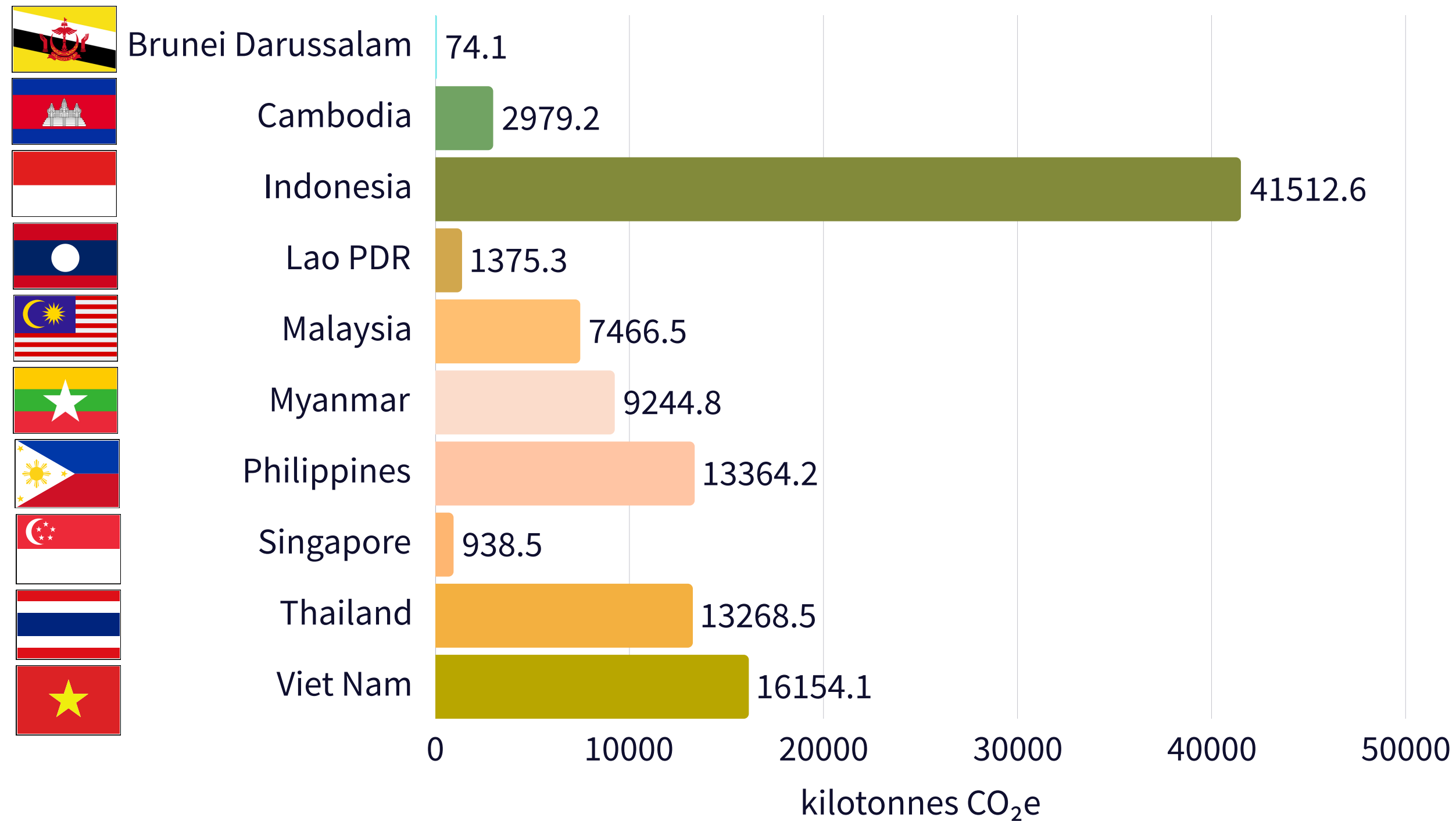
Greenhouse Gas Emissions from Food Waste in ASEAN



METHANE EMISSIONS BY COUNTRY (CH₄ AS CO₂E-100, KT)

Food-Waste Methane Impact 2022

(CH₄ as CO₂e, GWP100=28)



Top four account for

~79%

of the region's total.

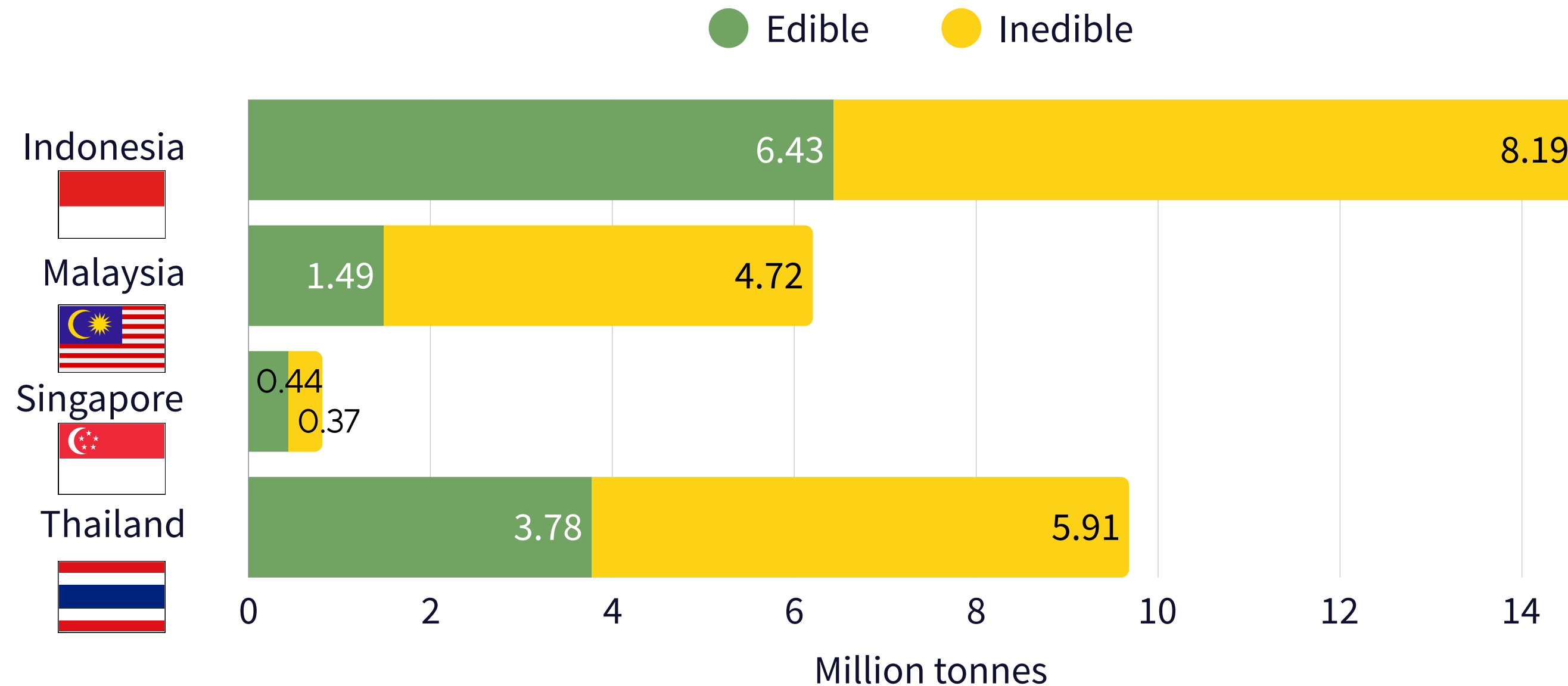
Do you know that a significant share of what we call “food waste” is actually consumable food?

The Surplus Gap



LARGE VOLUMES, LIMITED LAST-MILE ACCESS

Edible Vs. Inedible Share Of Food Waste



Total
~12.9 Mt
edible (consumable) food is wasted

The greatest tragedy of food waste is not just the greenhouse gas it releases,
but the moral failure that allows millions to starve and die from hunger.

The Paradox



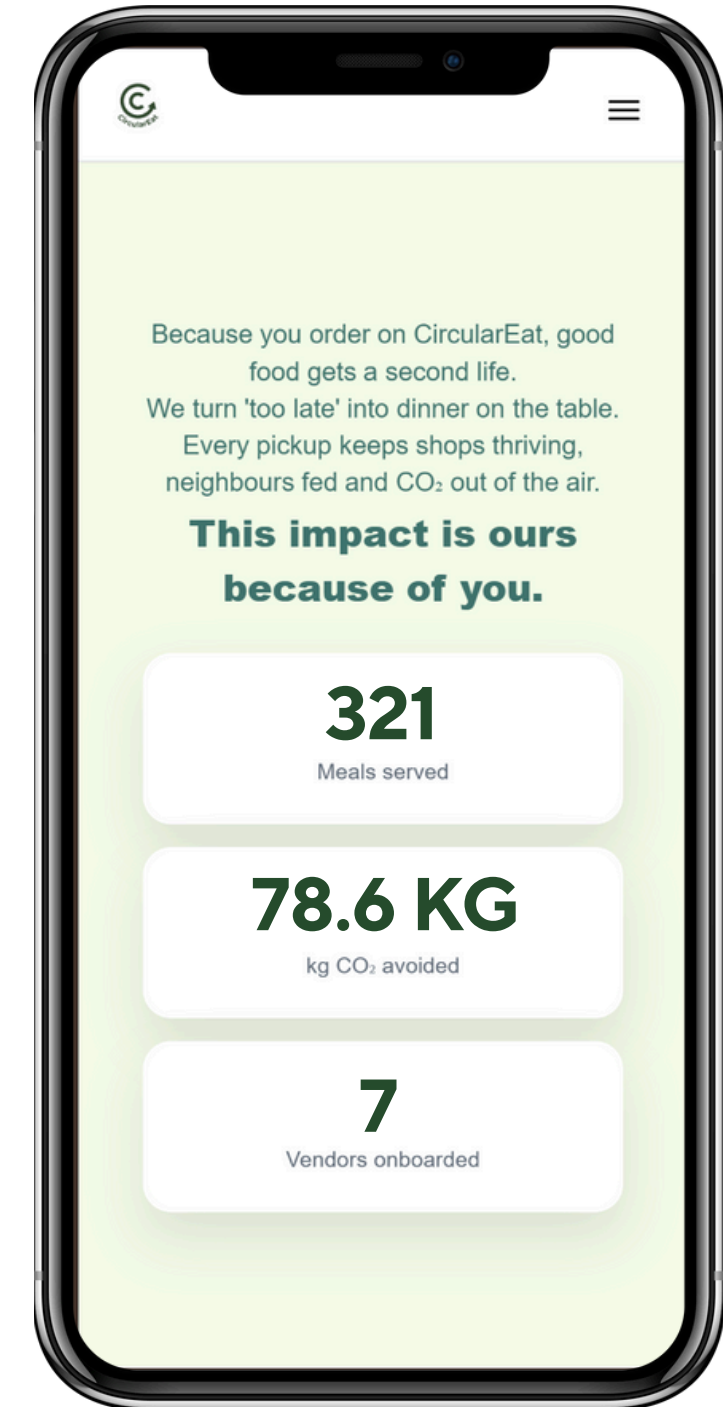
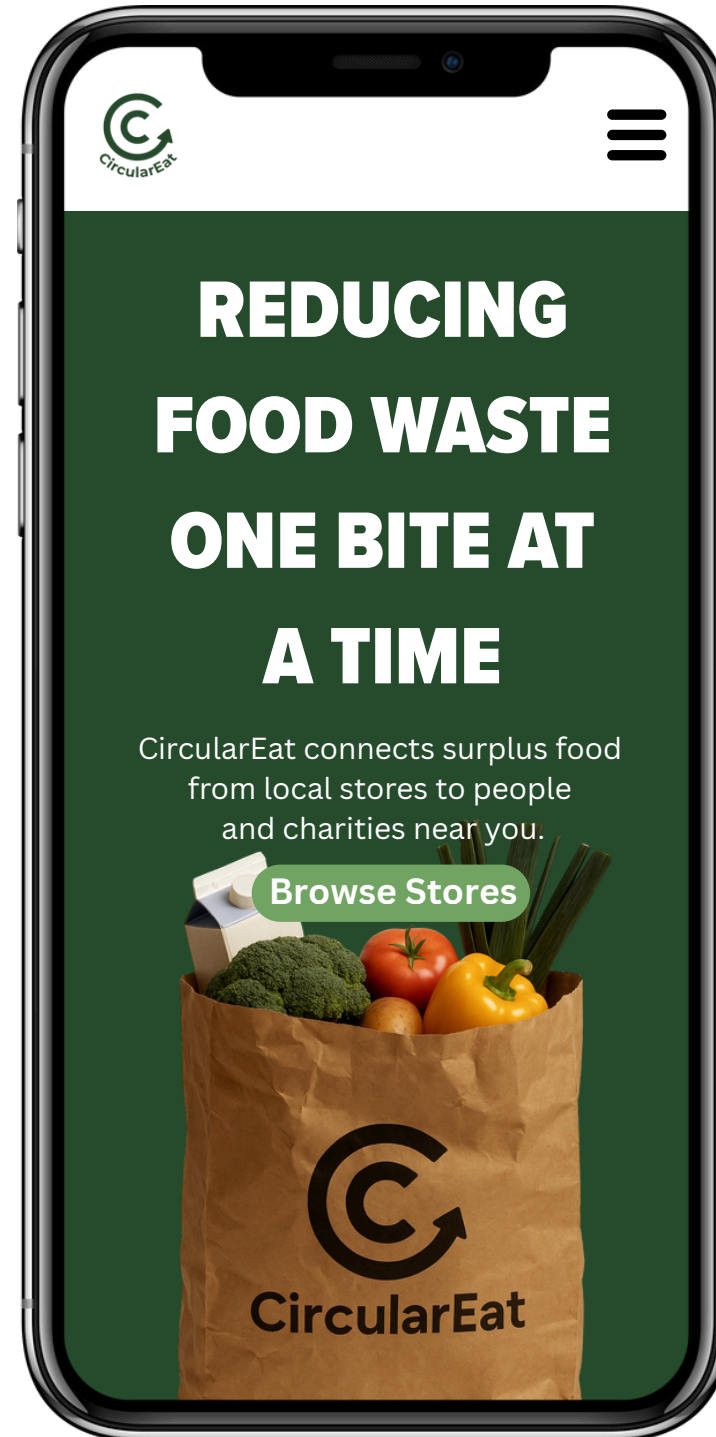
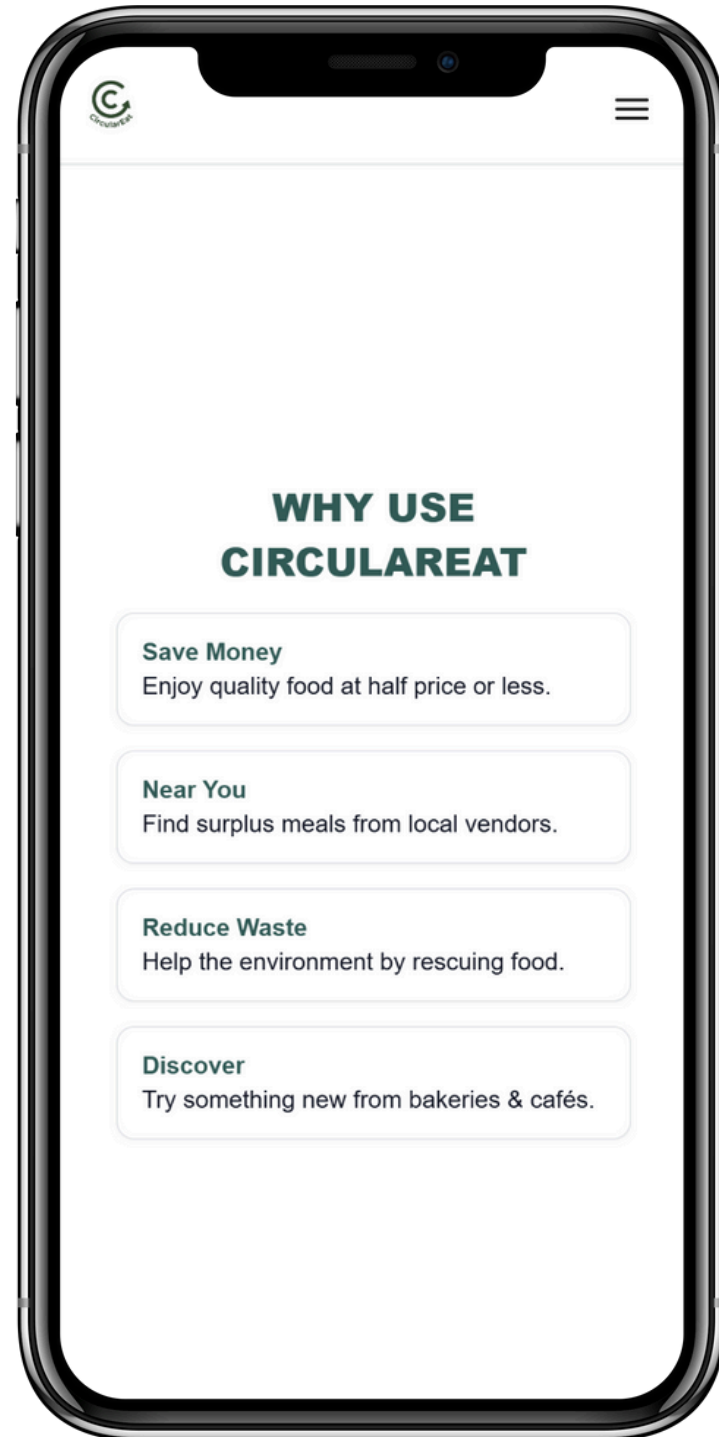
GLOBAL HUNGER INDEX SCORES IN ASEAN (2019)

GHI Severity Scale					
≤ 9.9 low	10.0–19.9 moderate	20.0–34.9 serious	35.0–49.9 alarming	≥ 50.0 extremely alarming	
AMS	GHI ranking 2019	Proportion of undernourished in the population (%) 2018-2020	Prevalence of wasting in children under five years (%) 2016-2020	Prevalence of stunting in children under five years (%) 2016-2020	Under-five mortality rate (%) 2019
	69	6.2	8.8	28.9	2.7
	73	6.5	10.2	30.8	2.4
	78	5.3	9.0	33.1	4.6
	58	3.2	9.7	21.8	0.9
	71	7.6	6.7	26.7	4.5
	68	9.4	5.6	30.3	2.7
	53	8.2	7.7	13.4	0.9
	66	6.6	7.9	26.1	2.6

We have abundant surplus, yet people still go hungry.

How might we: rapidly match edible surplus to those who need it reliably, safely and at scale?

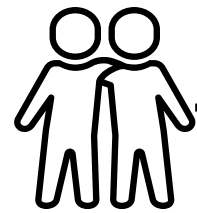
A REVOLUTIONARY PLATFORM TACKLING FOOD WASTE & FOOD INSECURITY



HOW IT WORKS?



SOLUTION PROVIDER

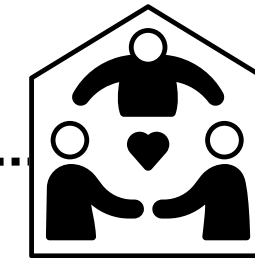


SIDEKICKS

Eateries
Retails

List end-of-day surplus in seconds (price, quantity, pickup window).

Recover revenue, cut disposal costs.



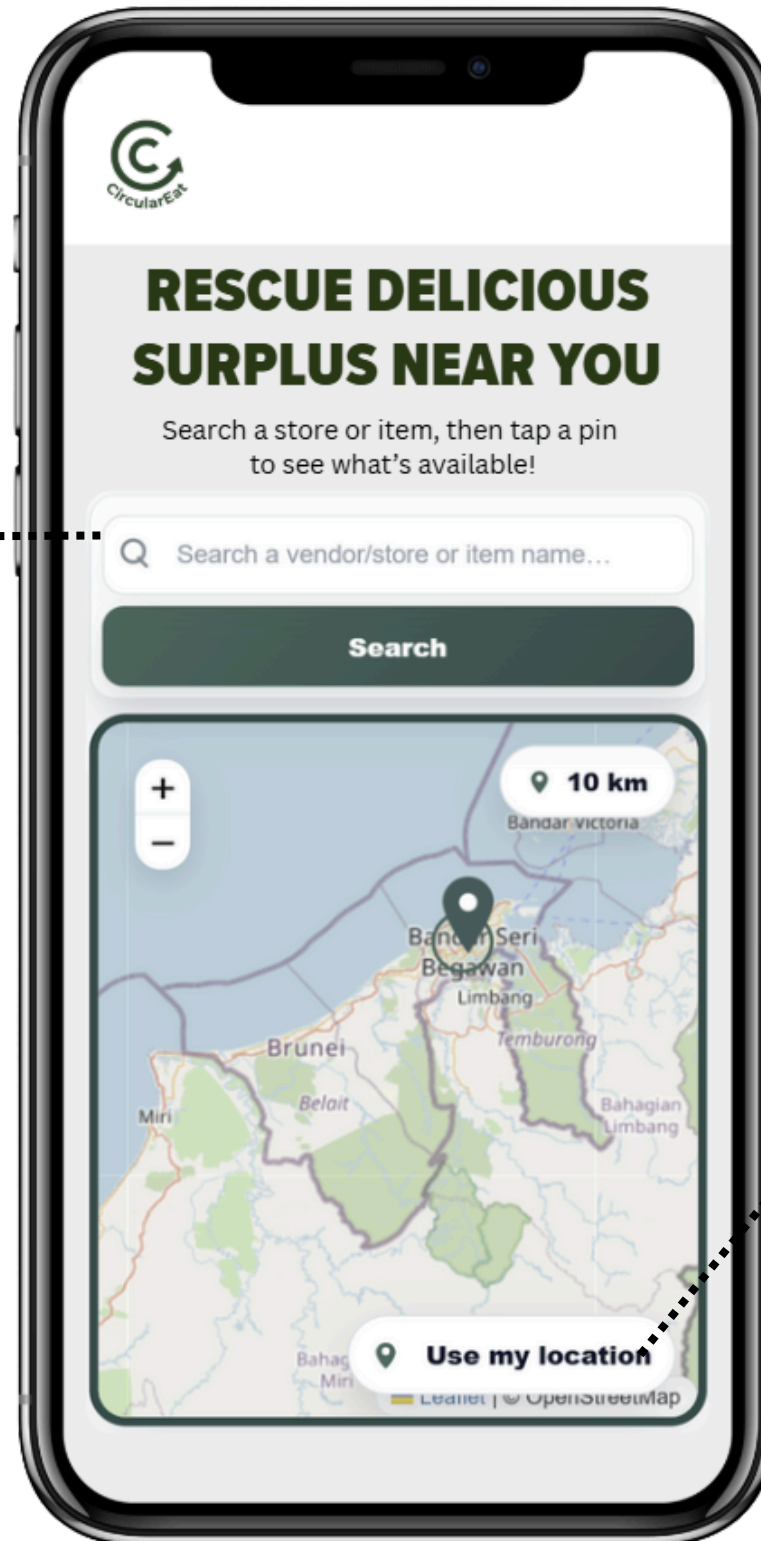
BENEFICIARIES

Consumers
Underprivileged

Find quality last-hour deals nearby, pay online and collect with a pickup code.

Save money, reduce waste and support local businesses.

BENEFICIARIES: CONSUMERS & UNDERPRIVILEGED HOUSEHOLDS



Search Bar

Type a vendor/store or item name to find matches.

Use My Location

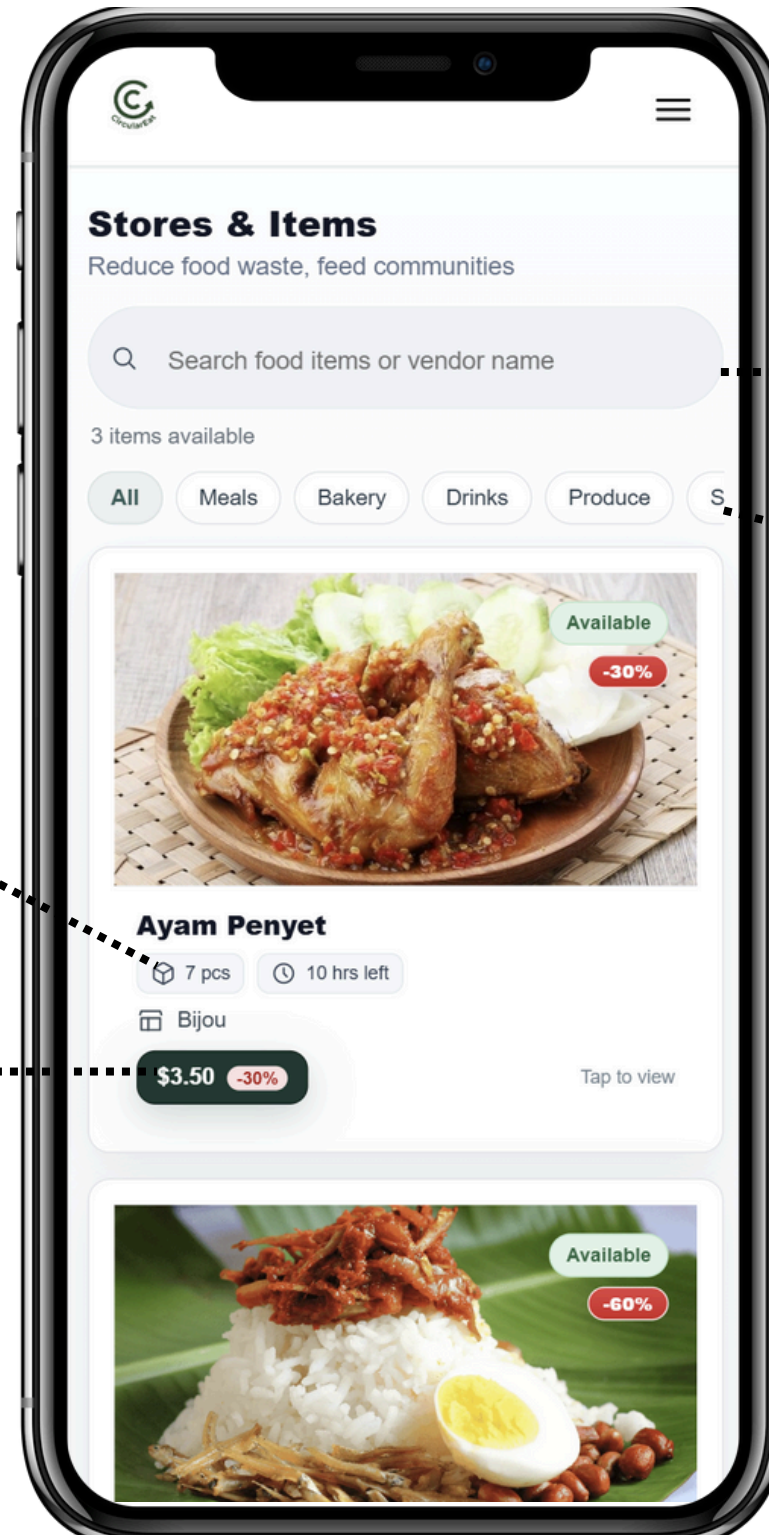
- Centers the map on your current GPS position
- Shows nearby offers within the selected radius (e.g. 10 km).
- Permission is requested on tap; location is used only to find nearby results.

BENEFICIARIES: CONSUMERS & UNDERPRIVILEGED HOUSEHOLDS

Quantity of item available

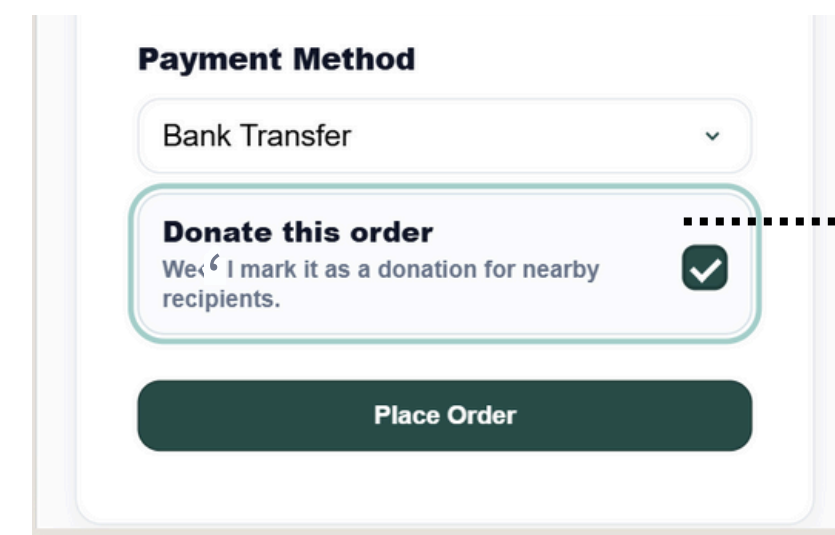
Estimated time before item expired

Price with a discount badge



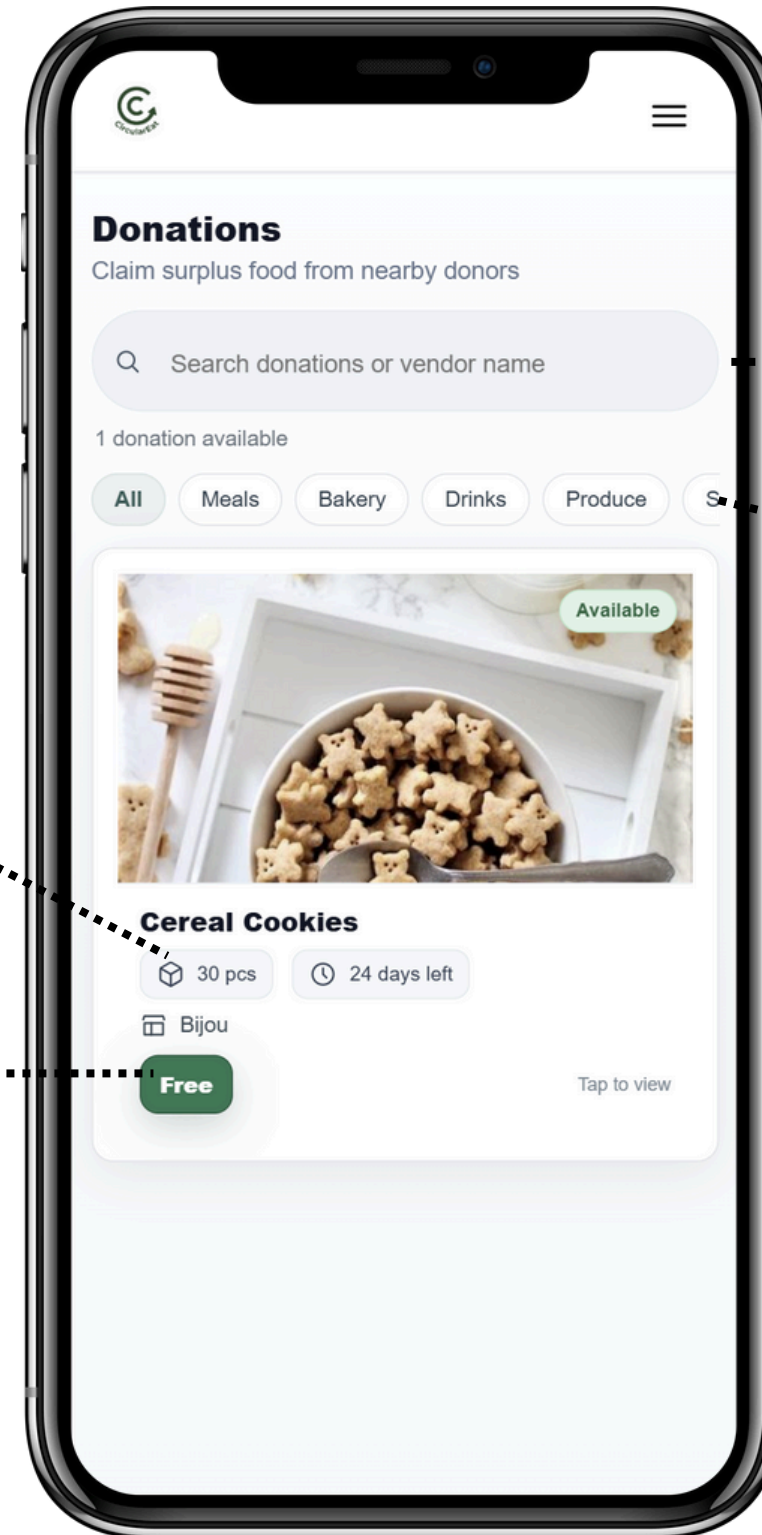
Browse item or vendor to instantly filter the list

Category filters



Buy to donate feature

BENEFICIARIES: CONSUMERS & UNDERPRIVILEGED HOUSEHOLDS



Quantity of item available

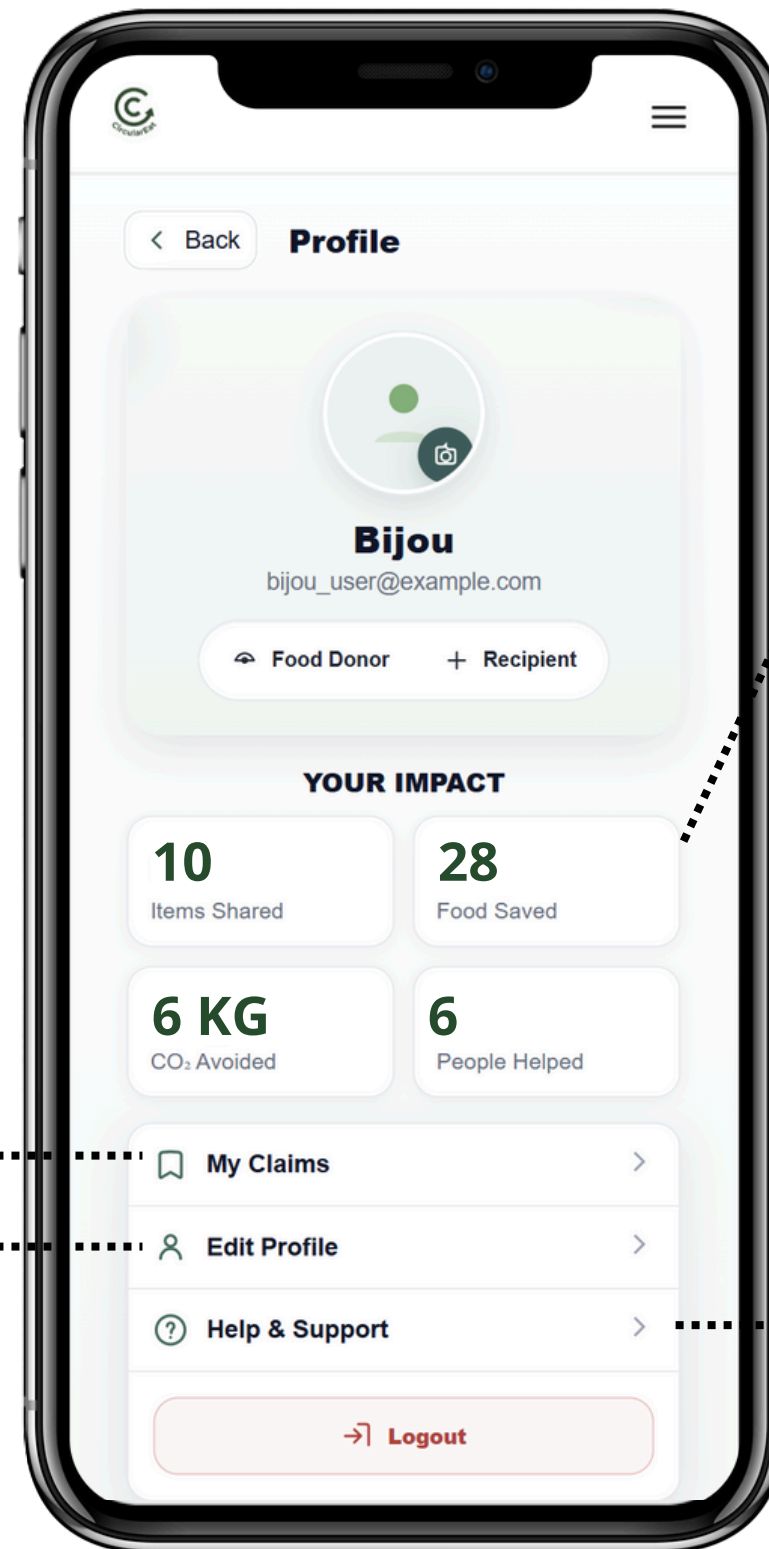
Estimated time before item expired

“Free” badge

Browse item or vendor to instantly filter the list

Category filters

BENEFICIARIES: CONSUMERS & UNDERPRIVILEGED HOUSEHOLDS



Your Impact

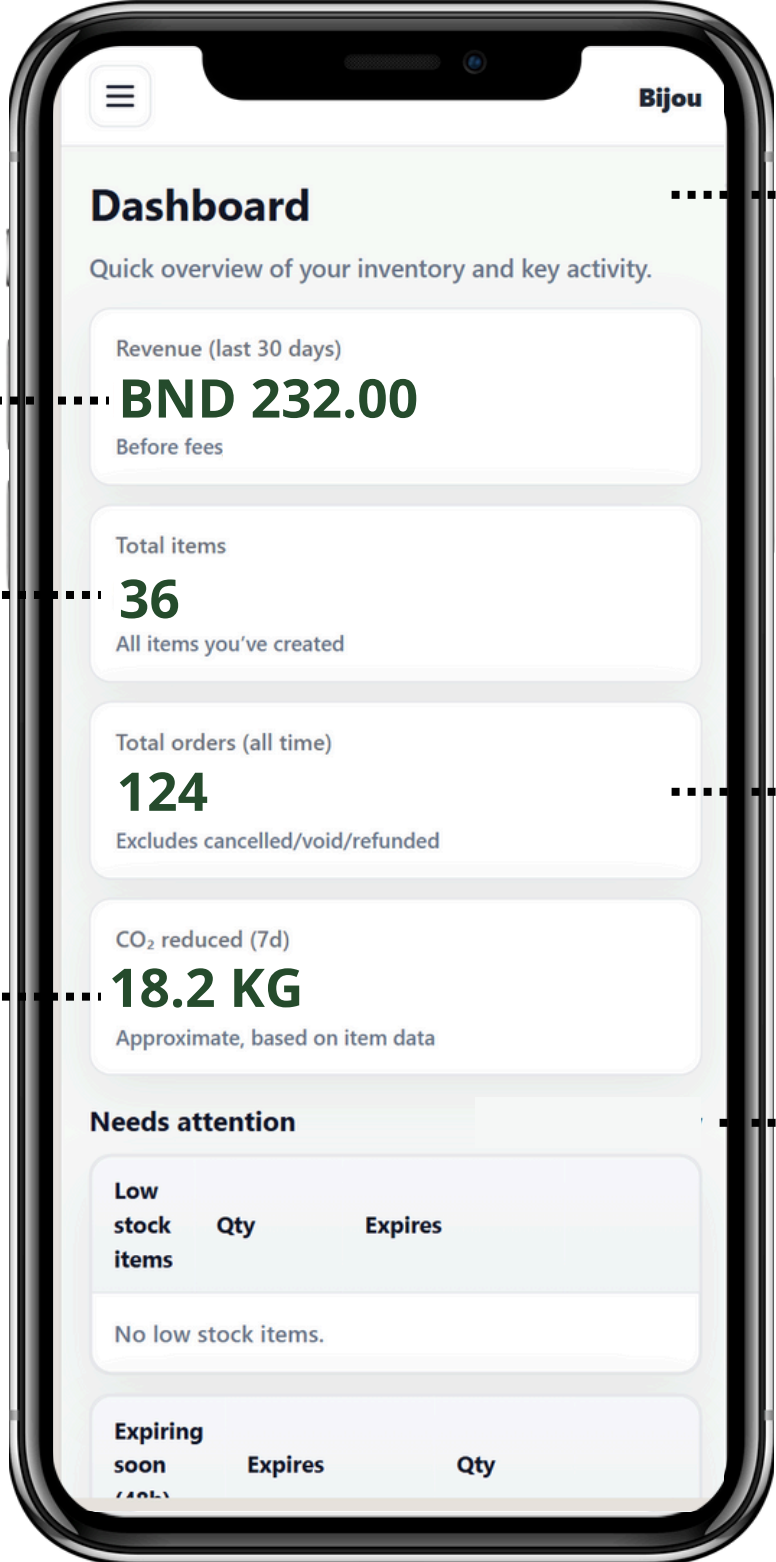
- Items Shared: Total donations you have made.
- Food Saved : Items (Food) successfully rescued (after pickup/purchase is completed).
- CO₂e Avoided :Estimated emissions avoided from rescued food (~2.5 kg CO₂e per 1 kg food)
- People Helped : Number of recipients supported through your activity.

Track requests, pickup details and history

Update name, email, photo and preferences

FAQs and contact

SIDEKICKS (PARTNERS): VENDORS (F&B, RETAILERS)



Dashboard
Quick overview of your inventory and key activity.

Revenue (last 30 days)
BND 232.00
Before fees

Total items
36
All items you've created

Total orders (all time)
124
Excludes cancelled/void/refunded

CO₂ reduced (7d)
18.2 KG
Approximate, based on item data

Needs attention

Low stock items	Qty	Expires
No low stock items.		

Expiring soon

Expires	Qty
(2023)	

Quick snapshot of your store's performance and inventory

Gross sales before fees

Count of items you have created for sale & donation

Completed orders only; cancelled/void/refunded are excluded

Estimated emissions avoided from rescued items

Needs attention
Action list for:

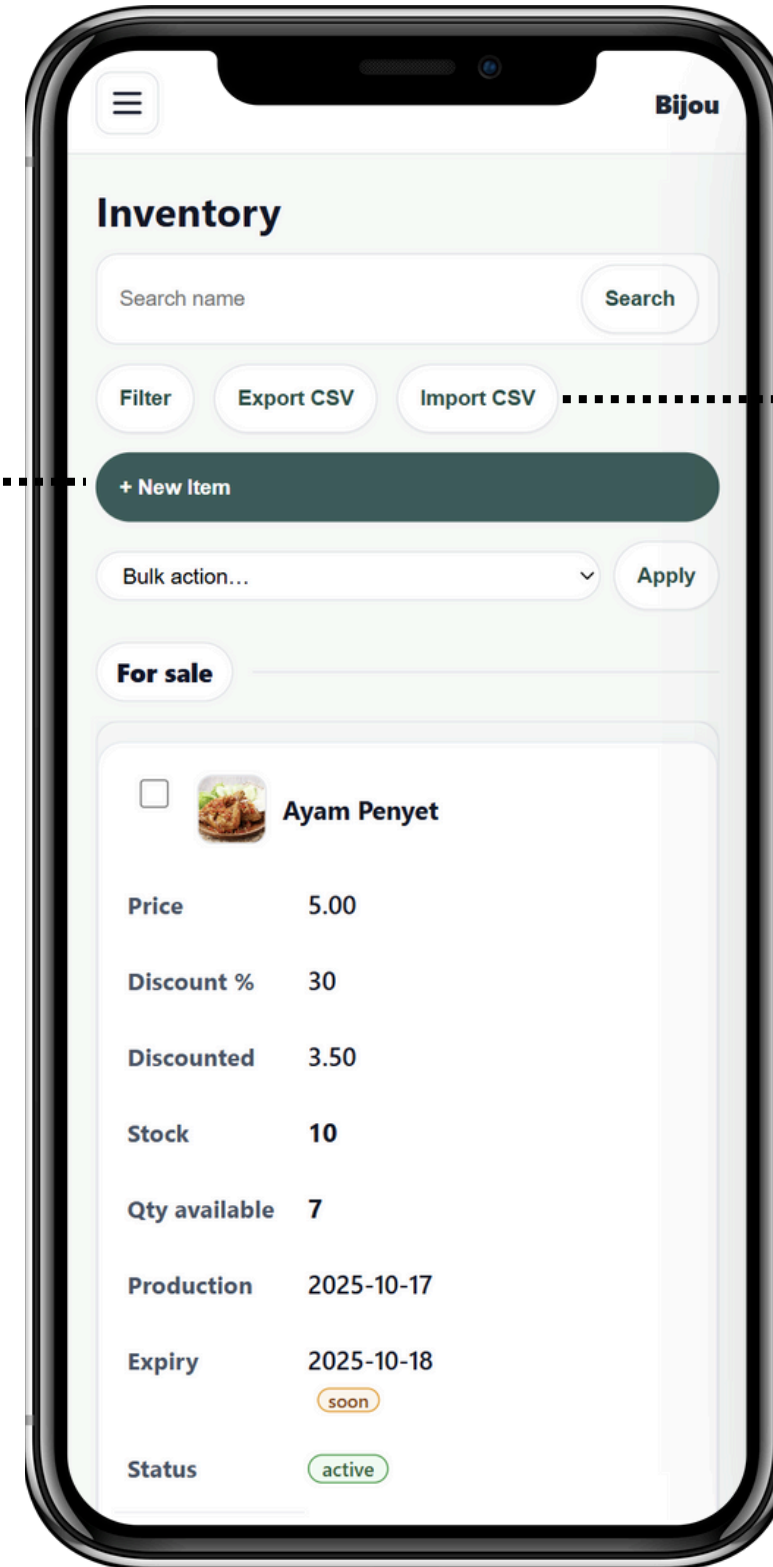
- Low stock items
- Expiring soon

Features



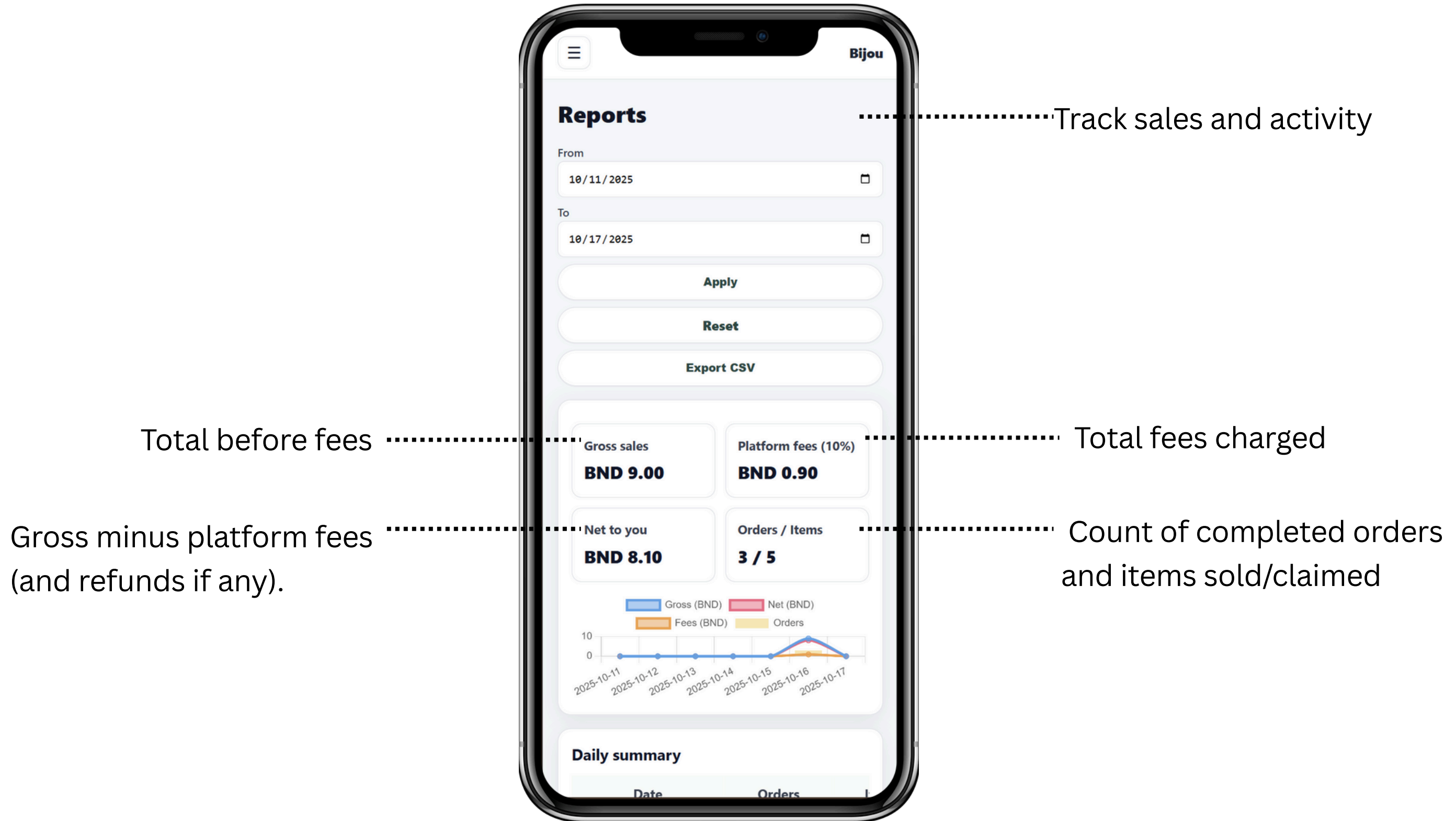
SIDEKICKS (PARTNERS): VENDORS (F&B, RETAILERS)

Create and edit items for sale or donation



Download your items to CSV or bulk-upload updates/new items

SIDEKICKS (PARTNERS): VENDORS (F&B, RETAILERS)



Track sales and activity

Total before fees

Total fees charged

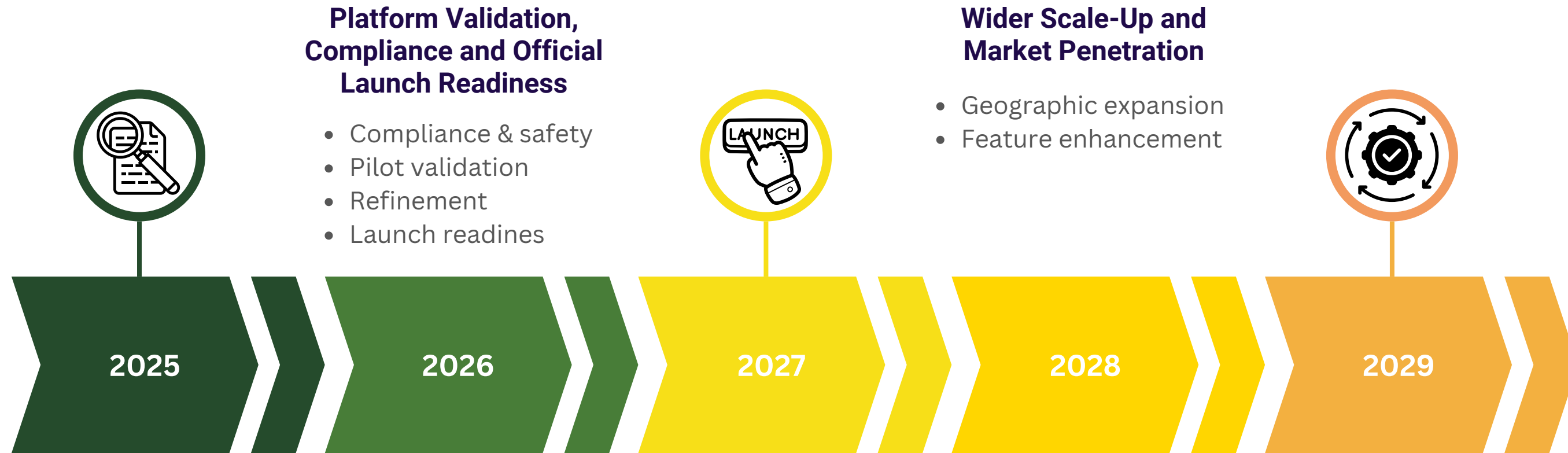
Gross minus platform fees
(and refunds if any).

Count of completed orders
and items sold/claimed

Project Timeline



2025 - 2029



Platform Validation, Compliance and Official Launch Readiness

- Compliance & safety
- Pilot validation
- Refinement
- Launch readiness

Wider Scale-Up and Market Penetration

- Geographic expansion
- Feature enhancement

Research, Ideation and Minimum Viable Product (MVP) Development

- Research
- Platform design
- MVP development

Official Launch Vendor Acquisition and Initial Scaling

- Public launch
- Vendor acquisition drive
- User penetration
- Initial impact metrics








Impact Focus, Measurement and Sustainability

- Final SDG impact report
- Sustainability model
- Replication blueprint



Strategic Alignment and Execution Plan



Strategic Goal	Invent Revolutionary Digital Platform to tackle Food Surplus, Guarantee Vendor Food Waste Reduction, Provide Discounted, Nutritious Food to Reduce Waste and Hunger.							
SDG Initiative								
ASCC & AEC Blueprint	<ul style="list-style-type: none"> • ASCC: Social Protection & Food Security • AEC: FAF – access /affordability 	<ul style="list-style-type: none"> • ASCC: Health & Safety (food safety) • AEC: Standards & Consumer Protection 	<ul style="list-style-type: none"> • ASCC: SCP & behaviour change • AEC: MSME & Digital Economy (e-commerce, pricing tools) 	<ul style="list-style-type: none"> • ASCC: Sustainable Cities & Climate/Resilience • AEC: Connectivity & Logistics (pickup/last-mile) 	<ul style="list-style-type: none"> • ASCC: Sustainable Consumption & Production (SCP) • AEC: FAF – sustainable production / MSME ops 	<ul style="list-style-type: none"> • ASCC: Climate Action (impact accounting) • AEC: Sustainable Economic Development 	<ul style="list-style-type: none"> • ASCC: People-centred Partnerships & Volunteerism • AEC: PPPs & Innovation / “Global ASEAN” scale-up 	
Stakeholder Group and Roles	Beneficiaries/ Discounted Users	Vendors/Eateries	Platform Management	Local Government/ City Partners	Vendors/Eateries	Platform Management	Platform Developers	Strategic Partner
	Access the platform, purchase discounted food and provide feedback on availability and quality.	Ensure surplus food is safe, high-quality and adheres to all health standards upon listing and delivery.	Implement a dynamic pricing model that maximizes affordability for beneficiaries while ensuring vendor profitability.	Facilitate logistical support, provide data on local food insecurity and champion the initiative.	Implement internal processes to accurately track and list all daily edible surplus inventory on the platform.	Develop and report on the calculation of emissions avoided based on food rescue data.	Ensure the technology is scalable, secure and user-friendly for all stakeholders.	Scale-up funding, and strategic guidance to expand market reach.
Deliverables	<p>Adoption: Number of registered beneficiary users in the first year.</p> <p>Feedback: Provide product/platform reviews.</p>	<p>Quality Assurance: Maintain a 4.5/5 average user rating for food quality and safety.</p>	<p>Discount Rate: Maintain an average user discount o 60% on original retail price.</p>	<p>Partnership: Secure MoUs with local government (MPRT)</p>	<p>Waste Diversion: Track and report monthly surplus food weight (kg) diverted from disposal. 75% surplus monetization target.</p>	<p>Reporting: Publish a quarterly Environmental Impact Report showing total emissions avoided.</p>	<p>Technical Deliverable: Launch MVP with 99.9% uptime and cross-platform compatibility.</p>	<p>Funding: Secure in seed funding or follow-on investment by year-end.</p> <p>Guidance: Advisory meetings held annually.</p>

**Together, we can make responsible consumption
the easy choice, and it starts with CircularEat.**



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THANK YOU



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References



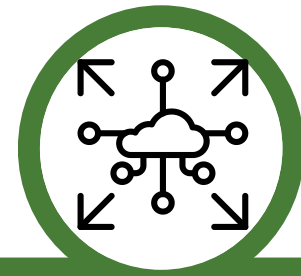
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Appendix A - Proof of Readiness & Impact



FEASIBILITY

- Works with what F&Bs already do: end-of-day discount or donate.
- Light tech (web + GPS + pickup code). No new hardware.
- Clear pilot: 5–10 vendors, 50 welcome vouchers, donation flow.
- Low cost to start; main costs = hosting + commercialising.
- Basic risks covered: time window, labels, proof of handover.



SCALABILITY

- Vendor self-onboarding; repeatable SOPs for new areas.
- Start in dense zones → expand by partner networks.
- Weekly auto reports for vendors/partners.



SUSTAINABILITY

- Planet: diverts edible food, cuts landfill and CO₂e.
- People: cheaper meals + donations.
- Business: recover value from surplus; lower disposal; ESG badges.



IMPACT

- Kg rescued (sold + donated)
- CO₂e avoided (2.5 kg per kg of food waste)
- On-time pickups & incident rate
- Active vendors & repeat buyers

Appendix B – Pilot Phase Overview

SCOPE

Pilot Rules

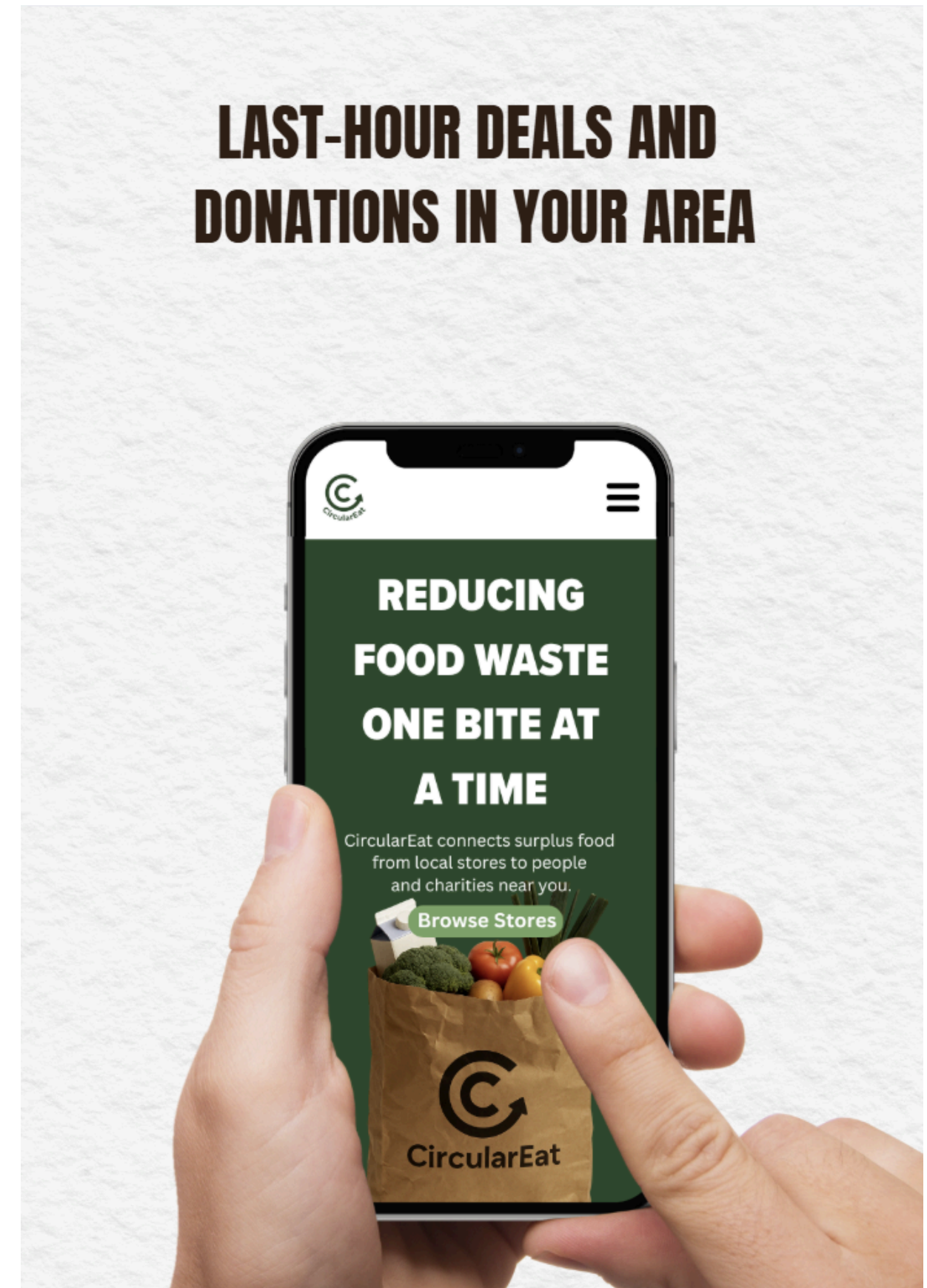
- Limited vendors & locations for a controlled rollout.
- Daily item drops for donation + last-hour discounts.

Objectives

- Prove end-to-end ops (list → order → pickup).
- Validate UX and pricing (conversion, sell-through).
- Capture baseline metrics

What We'll Measure

- Orders completed, sell-through/claim rate.
- Items & kg diverted from disposal.
- Estimated CO₂e avoided (factor: 2.5 kg CO₂e per kg rescued).
- On-time pickups, incident rate, repeat buyers/sellers.
- Voucher metrics: claim vs redemption, new users acquired.



Appendix B1 - Pilot Targets



Area	Goal	How we measure (ops)
Edible surplus rescued	≥ 200 kg	Sum item weights in completed orders + donation handovers (with proof).
Sell-through rate	≥ 70%	Sold qty ÷ Listed qty per item batch (daily → weekly).
Pickup reliability	≤ 5% late/failed	Late >15 min or “incident” ÷ total pickups.
Vendor retention	≥ 60% to Month 2	Active vendors in weeks 3–4 ÷ onboarded in week 1.
Meals donated	≥ 150 meals	Donation items converted via NGO portion size standard.
Affordability	≥ 25% avg. discount	Avg. (list price – sale price) ÷ list price across discounted items.
Climate impact	≥ 1.0 t CO₂e avoided	kg rescued × 2.5 kg CO₂e/kg (see note).
Platform reliability	≥ 99.5% uptime (service hrs)	Ping monitor + incident log during operating window.

Appendix B2 — Pilot Phase Overview

MEETING THE VENDORS

Session: 45–60 min, onsite

Checklist

- Confirm surplus menu, pricing/discount rules, pickup windows
- Walkthrough: Vendor Portal (list → receive order → hand-off → feedback)
- Packaging & labelling: date/time, allergen, reheat guidance
- Hand-off SOP: pickup code, time slots, fallback path
- Metrics shown: sell-through, kg diverted, CO₂e avoided
- Comms plan: IG posts
- Support channel: WhatsApp + Email



Photo: Meeting with the D'Java Cafe owner

Appendix B3 – Pilot Phase Vendors

LIST OF PARTICIPATING VENDORS

Vendors	Type of Food Service	District	Items likely for Pilot	Target listings/day
	Restaurant	Brunei Muara	Meals & Sweet, Bakes	3 to 5
	Japanese & Korean Cuisine Pop Up	Brunei Muara	Meals	3 to 5
	Cafe	Brunei Muara	Sweet, Bakes	3 to 5
	Cafe	Brunei Muara	Sweet, Bakes	3 to 5
	Cafe	Brunei Muara	Meals Drinks & Sweet, Bakes	3 to 5

Appendix B4 — Pilot Phase



ACQUISITION EXPERIMENT



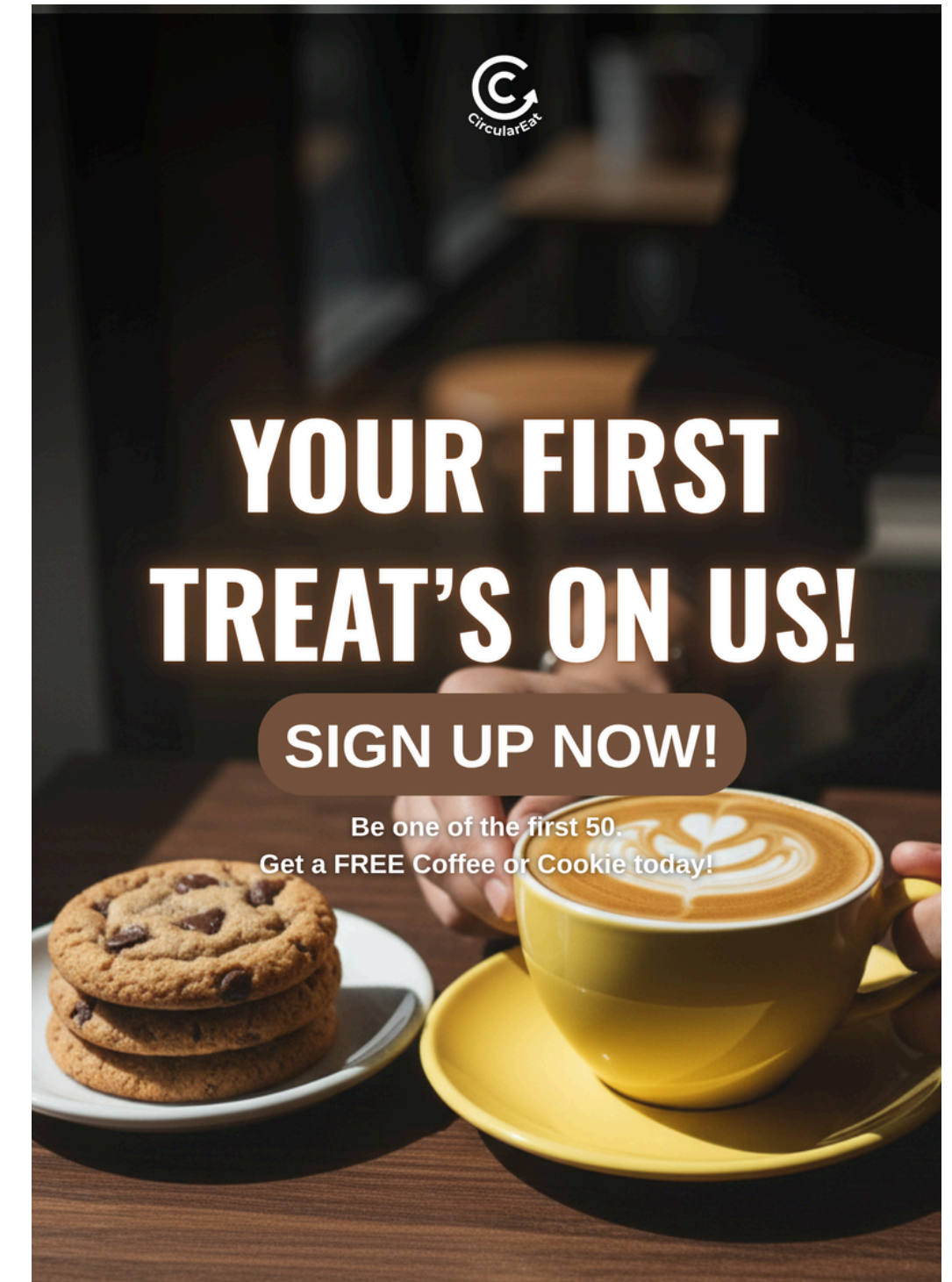
Beneficiaries perks

- Welcome Voucher (50 units)
- Goal: new-user activation & repeat rate.
- Offer: 1 free cookie or coffee (Coffee Up!) – one per user.
- Controls: unique code, non-stackable, expiry 20 Nov.
- Metrics: redemption %, CAC proxy, repeat purchase % in 14 days.



Vendor perks

- IG post + story; weekly impact report (sell-through, kg, CO₂e).
- Ops support: onboarding, menu setup, photo kit, staff cheat-sheet.



Appendix C – Terms and Conditions (Pilot Phase)



Platform role (facilitator only)	We connect Donors/Sellers ↔ Buyers/Recipients. Contracts are between users; CircularEat doesn't cook, store, transport or deliver food.
Eligibility & accounts	Accurate details; we verify NGOs/vendors and may suspend for breaches/fraud.
Listings = truth & safety	Vendors must show item, quantity, date-mark (use-by/best-before), allergens, storage and a collection window. Prohibited: unsafe/illegal items, alcohol/tobacco, non-food (unless expressly allowed).
Reservation & formation	Sale = Seller↔Buyer contract on reservation/payment confirmation. Donation = Donor↔Recipient contract on claim confirmation. No resale of donations; discounted items for end consumption only.
Payments & fees	Prices set by Sellers. Where online pay is enabled, CircularEat acts as limited collection agent; weekly settlement to vendors net of fees/charges/chargebacks.
Pick-up only	No delivery by CircularEat. Risk transfers at collection; buyer inspects before leaving
Cancellations & refunds	<ul style="list-style-type: none"> • Seller/Donor safety/unavailable → cancel + refund online payment. • Buyer/Recipient → no cancellation once listed/within window; perishables no returns after collection (except as required by law).
Food safety & halal	Vendors are solely responsible for compliance with Brunei laws (BDFSA, Public Health (Food) Act/Regulations, halal where claimed). CircularEat does not warrant safety/quality.
Key laws	Public Health (Food) Act/Regulations; BDFSA directives; Halal Certificate & Label laws; Consumer Protection (Fair Trading) Order; Personal Data Protection Order.

Appendix D - Our Business Model



PROBLEM

- Edible surplus is binned nightly; matching to demand is slow & manual.
- Households/NGOs can't reliably find affordable, safe last-hour food.
- Vendors bear disposal costs and reputational risk for waste.
- Landfilled food → methane (short-term warming).

EXISTING ALTERNATIVES

- Ad-hoc Instagram/WhatsApp flash sales; staff giveaways.
- End-of-day discounts at counter (low reach; data not tracked).
- General marketplaces not designed for perishables/pickup slots.

COST STRUCTURE

- Cloud hosting & backups; security (WAF/SSL/scans)
- Ongoing dev/maintenance; support & ops
- Payment processing (≈3% + fixed)
- Marketing & vouchers; legal/PDPO compliance
- Periodic security audit

SOLUTION

- Pickup-only surplus listings in <60s (price, qty, window, labels).
- Dual flow: discounted sale or donation (NGO/eligible users).
- Time-slot reservations +pickup code handoff.
- Vendor impact dashboard (sell-through, kg, CO₂e/CH₄ avoided).

KEY METRICS

- Sell-through/claim rate (%)
- Kg rescued & CO₂e avoided (2.5× kg); CH₄ (CO₂e-100)
- On-time pickups (%) • Incidents/10k orders
- Repeat buyers/vendors (%) • Voucher claim→redeem (%)

REVENUE STREAMS

- Platform fee on paid orders (~10% take rate)
- Sponsored/CSR campaigns (city/brand-funded rescues)

VALUE

PROPOSITION

- People: affordable or free meals, nearby, predictable pickup.
- Planet: measurable waste diversion & methane avoidance.
- Business: monetize surplus, lower disposal cost, display impact.
- City: open metrics for SDG12/13 reporting.

CHANNELS

- Vendor onboarding (field visits, WhatsApp groups, IG)
- In-app banners + IG stories for last-hour drops
- NGO partnerships & campus ambassadors
- City partners (waste/climate units) for credibility and reach

BENEFICIARY

RELATIONSHIP

- Simple mobile UX; reservation + pickup code
- Targeted vouchers
- Incident helpline (fast refund/replace rules)
- Weekly impact emails (households: savings; NGOs: meals-eq)

BENEFICIARIES

- Low-income households & students (discounts/vouchers)
- NGOs/charities (predictable donation slots)
- MSME vendors (bakeries, cafés, restaurants, delis)
- Cities (diversion/climate data users)

+ EXTERNALITIES

- Less landfill load; lower methane in near term
- Food affordability; community resilience
- MSME cost savings & sustainability branding
- City-level SDG reporting capability

- EXTERNALITIES

- Risk of mislabeled allergens/unsafe items if SOPs ignored
- Potential voucher abuse or reselling of donations
- Pickup traffic clustering near vendor closing time
- Data privacy/PDPO risks if controls are weak

Appendix D1 - Our Business Model



A WIN-WIN-WIN FOR ALL

