



# Community of Practice (CoP) on Food Loss and Waste (FLAW) REWIND 2025

## Rewinding the Journey: From Awareness to Circular Solutions in Asia-Pacific

Asia-Pacific Association of Agricultural Research Institutions (APAARI)

### Executive Summary

### Rewinding the Journey: Circular Solutions for Food Loss in Asia-Pacific

Asia-Pacific produces half of the world's food loss and waste, driving a systemic shift toward circular bioeconomy models.

**The Challenge: The "Silent Famine" in Asia-Pacific**

**50%** Global Food Loss and Waste  
Despite being a top producer, the region accounts for half of all global food waste.

**A Multidimensional Systemic Crisis**  
Waste is rooted in infrastructure gaps, governance limitations, and behavioral norms, not just disposal.

**18.2 Billion Tons** of Animal Waste  
Livestock systems generate massive waste annually, significantly contributing to methane and nitrous oxide emissions.

**The Solution: Reframing Waste as Value**

**Transitioning to a Circular Bioeconomy**  
Moving from "take-make-dispose" to regenerative systems that keep materials in continuous use.

**High-Value Valorization Pathways**

- Bioenergy**: Transforming residues into bioenergy.
- Nutraceuticals**
- Organic Fertilizers**: Organic fertilizers
- Biodegradable Packaging**

**Technology Meets Behavior Change**  
Digital tools like IoT and AI require supportive policy and consumer nudges to succeed.

- Monitoring**: IoT-based tracking systems
- Storage**: Frugal cold chain infrastructure
- Packaging**: Smart and biodegradable materials

NotebookLM





Food Loss and Waste (FLW) has emerged as one of the most pressing yet underrecognized challenges affecting food security, environmental sustainability, economic efficiency, and climate resilience in the Asia–Pacific region. Despite being one of the world’s largest food-producing regions, Asia–Pacific accounts for a substantial share of global food loss and waste, reflecting inefficiencies that occur across the entire food value chain—from production and post-harvest handling to processing, distribution, retail, and household consumption (FAO, 2019; FAO, 2022; UNEP, 2021).

These losses not only undermine farmer incomes and resource-use efficiency but also contribute significantly to greenhouse gas (GHG) emissions, biodiversity loss, and pressure on land, water, and energy systems. Addressing FLW therefore represents a critical opportunity to simultaneously advance food security, climate mitigation, economic development, and sustainable resource management.

In response to this complex and multidimensional challenge, the Asia-Pacific Association of Agricultural Research Institutions (APAARI) established the Community of Practice on Food Loss and Waste (FLAW–CoP) as a structured, knowledge-driven regional platform to foster dialogue, collaboration, and innovation across stakeholders.

### **The CoP convened four thematic sessions covering:**

- (1) systemic gaps and innovation priorities in food systems,
- (2) livestock waste management and greenhouse gas emissions,
- (3) technological options for food waste prevention and utilization,
- (4) circular economy approaches for sustainable and regenerative food systems.

These sessions brought together experts from research institutions, governments, development organizations, private sector entities, and civil society across the Asia–Pacific region, creating a multidisciplinary forum for exchanging experiences, identifying solutions, and strengthening regional cooperation.

This Rewind 2025 report consolidates the key deliberations, technical insights, case studies, cross-cutting findings, and strategic directions emerging from the FLAW–CoP series. Discussions across the sessions consistently highlighted that FLW is not merely a waste management issue confined to downstream stages of the supply chain; rather, it is a systemic challenge rooted in structural inefficiencies, governance gaps, market incentives, behavioral norms, infrastructure limitations, and technological disparities. Smallholder farmers and micro, small, and medium enterprises



(MSMEs), who play a central role in Asia–Pacific food systems, face particular constraints related to access to infrastructure, financing, digital tools, and markets. At the same time, consumer behavior, cultural practices, and institutional norms significantly influence food waste generation, especially in rapidly urbanizing economies.

The CoP discussions also emphasized the strong linkages between FLW and climate change. Food that is lost or wasted represents not only wasted nutrition but also wasted natural resources and embedded emissions across the production lifecycle. Livestock waste management, organic waste disposal, and inefficient supply chains contribute to methane and nitrous oxide emissions, reinforcing the importance of integrating FLW reduction strategies into climate policies, Nationally Determined Contributions (NDCs), and sustainable development frameworks. Circular bioeconomy approaches—including composting, anaerobic digestion, bioenergy generation, and valorization of agricultural residues into high-value products—were identified as promising pathways to transform waste into economic opportunity while reducing environmental impacts. A central outcome of the CoP journey has been the emergence of a shared regional vision: “Food loss and waste is misplaced value, not waste.” This perspective reframes FLW from a problem of disposal to an opportunity for innovation, resource efficiency, and sustainable development. The logical pathway forward involves transitioning from traditional linear “take–make–dispose” food systems toward regenerative and circular models that prioritize prevention, redistribution, reuse, recycling, and recovery. Such a transition requires coordinated efforts across policy, technology, markets, finance, and behavior change, supported by strong regional collaboration and knowledge exchange.

The Rewind 2025 also identifies priority action areas, including strengthening post-harvest infrastructure, scaling climate-smart and cost-effective technologies, promoting digital monitoring and traceability systems, supporting MSME-led circular innovations, improving governance frameworks for food redistribution and waste utilization, and fostering awareness and behavioral change at consumer and institutional levels. Equally important is the establishment of monitoring, evaluation, and learning mechanisms to track progress, share lessons, and ensure accountability across interventions.

While the FLAW–CoP initiative represents an early step in a long-term regional transformation process, it has successfully created momentum, partnerships, and a foundation for sustained collaboration across the Asia–Pacific region. By integrating science, policy, innovation, and community engagement, APAARI is positioned to play a catalytic role in advancing circular and climate-resilient food systems. The journey ahead will require continued stakeholder



commitment, investment, and policy alignment, but the potential benefits—enhanced food security, reduced environmental impacts, improved livelihoods, and resilient agri-food systems—are substantial.

## **Key Deliberations of the CoPs are presented below under following heads:**

### Brief on the CoPs

CoP 1: Launching the CoP “The Silent Famine in Asia–Pacific”

CoP 2: Animal Agriculture and GHG Emissions

CoP 3: Technological Options for Food Waste Management

CoP 4: Circular Economy Transitions

### Important Supporting Areas

Cross-Cutting Insights

Strategic Recommendations

Implementation Roadmap

Monitoring, Evaluation, and Learning Framework

### Conclusions

### *Annexes*

### *Acknowledgements*



## CoP-1 : Launching the CoP “The Silent Famine in Asia–Pacific”

# We are Launching!



## Community of practice on Food Loss and Waste (FLAW)

**Flaw in the FLAW**

Every year, over 20% of food produced in parts of Central and Southern Asia is lost before it even reaches our plates!

Be a part of the discussion!

**DATE:** May 08, 2025

**TIME:** 2 PM - 3 PM (Bangkok time)

[Register Now](#)

Contact us:  
**Ms. Dipika Trivedi** d.trivedi@apaari.org,  
**Dr. Ravi Khetarpal** ravi.khetarpal@apaari.org



### Our Speaker

**Dr. Ravi Khetarpal**  
Executive Director, APAARI

*“The Silent Famine: Asia–Pacific’s Hidden Emergency of Food Loss and Waste”*

[www.apaari.org](http://www.apaari.org)

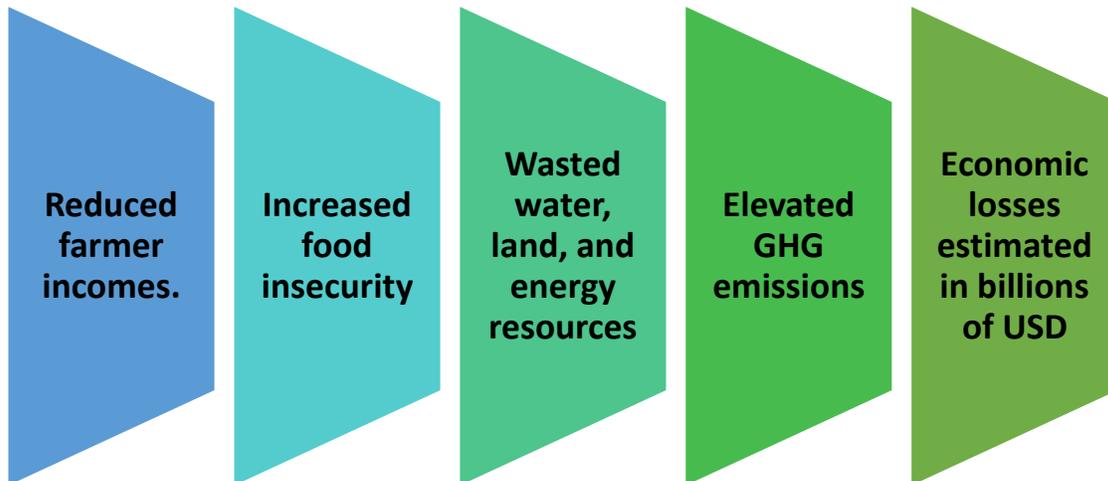
Food loss and waste (FLW) has emerged as a “silent famine” in the Asia–Pacific region, undermining food security, economic stability, environmental sustainability, and climate resilience. Despite being one of the world’s largest food-producing regions, Asia–Pacific accounts for nearly 50% of global food loss and waste, with significant losses occurring across the value chain from post-harvest handling to household consumption. Recognizing the urgency of this challenge, the Asia-Pacific Association of Agricultural Research Institutions (APAARI) launched the **Community of Practice on Food Loss and Waste (FLAW–CoP)** as a collaborative platform to foster dialogue, innovation, and collective action across stakeholders.



## Regional Context

Asia–Pacific is home to over 60% of the global population and plays a central role in global food production. Yet, an estimated 30–40% of food produced is lost or wasted annually.

These losses translate into:



FLW represents a paradox: while millions face hunger and malnutrition, substantial volumes of food are discarded across supply chains.

## Rationale for the FLAW–CoP Stakeholder

APAARI initiated the FLAW–CoP to:

- APAARI initiated the FLAW–CoP to build a regional stakeholder network on food loss and waste (FLW).
- Facilitate regional dialogue and multi-stakeholder collaboration.
- Share best practices, innovations, and case studies across countries.



- Identify key research, technology, and policy gaps in FLW.
- Strengthen collaborative innovation and partnerships.
- Support smallholders and value chain actors through knowledge exchange.
- Align FLW interventions with Sustainable Development Goals (SDGs) and climate commitments.
- Promote data-driven, behavioral, and systemic approaches to FLW reduction.

### Innovation Priorities

Innovation is widely recognized as a critical driver for sustainable development and for accelerating the reduction of FLAW across the agri-food system. Scaling up innovations requires focused attention across multiple domains, including post-harvest management, cold-chain infrastructure, digital monitoring tools, and circular economy solutions for waste valorization and resource recovery. Particular emphasis is needed on promoting climate-smart, cost-effective, and locally adaptable technologies that are accessible to smallholders and micro, small, and medium enterprises (MSMEs). At the same time, enabling environments such as supportive policies, financing mechanisms, and institutional frameworks are essential to facilitate adoption and large-scale implementation. Strengthening multi-stakeholder collaboration among research institutions, governments, private sector actors, and development partners will further accelerate innovation diffusion and maximize impact across the Asia–Pacific region.

Domain	Proposed Innovations
Monitoring	IoT-based tracking systems
Packaging	Smart & biodegradable packaging
Storage	Frugal cold chains
Decision Support	AI-based farmer advisory tools
Behavior	Nudging strategies & awareness campaigns

### Key Insight

Technological innovation must be accompanied by governance reform and behavior change. A central insight emerging from the discussions of the APAARI FLAW–CoP is that technological solutions alone are insufficient to significantly reduce food loss and waste (FLAW) unless they are supported by enabling governance structures and sustained behavioral transformation. While innovations such as cold-chain systems, digital monitoring platforms, smart packaging, and waste valorization technologies offer strong potential to improve efficiency and resource utilization, their adoption and impact remain limited in the absence of supportive policies, institutional coordination, and stakeholder incentives.



Governance reform plays a critical role in creating an enabling environment for innovation through regulatory frameworks, investment incentives, infrastructure development, and cross-sectoral coordination. Weak institutional arrangements, fragmented policies, and unclear food safety regulations particularly for food redistribution and waste reuse—often hinder implementation and scaling of otherwise viable technological interventions. Strengthening governance mechanisms can improve accountability, promote private-sector participation, and ensure equitable access to technologies, especially for smallholder farmers and micro, small, and medium enterprises (MSMEs).

Equally important is behavioral change across all actors in the food system, from producers and supply-chain stakeholders to retailers and consumers. Cultural norms, consumption habits, risk perceptions, and awareness levels significantly influence food waste generation and technology adoption. Without shifts in attitudes and practices such as improved storage management, responsible purchasing, portion control, and acceptance of imperfect produce technological innovations may fail to achieve their intended outcomes.

Therefore, a holistic approach integrating innovation, policy reform, and behavioral interventions is essential for systemic transformation. The CoP emphasized that sustainable FLW reduction requires coordinated efforts that align technological advancement with institutional support and societal engagement, ensuring long-term adoption, scalability, and impact across the Asia–Pacific region.

## I. CoP 2: Animal Agriculture and GHG Emissions

### ***Topic: New strategies on handling waste in animal-agriculture systems for controlling GHG emissions***

Renowned experts will serve as panelists.

#### **OUR SPEAKER!**

##### **Prof. Pramod Pandey, Ph.D.**

AES / University of California Cooperative Extension  
Department of Population Health and Reproduction  
School of Veterinary Medicine  
University of California  
USA

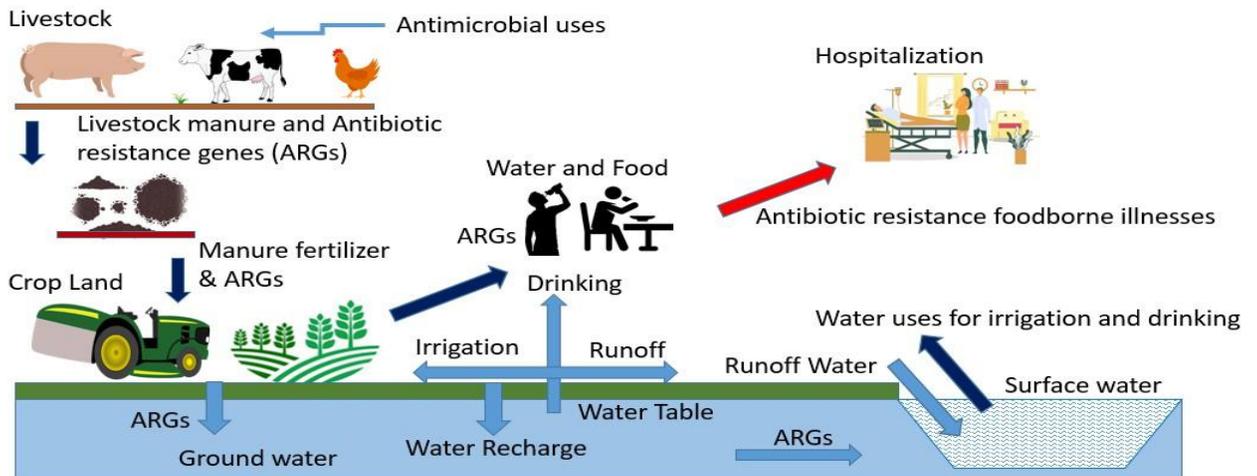


The second session of the APAARI FLAW–CoP) focused on the critical intersection between animal agriculture, waste management, and greenhouse gas (GHG) emissions. Livestock production systems play a vital role in food security, nutrition, and rural livelihoods across the Asia–Pacific region; however, they also generate substantial quantities of organic waste that

contribute significantly to methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) emissions when poorly managed.

Recognizing that livestock waste represents both an environmental risk and a resource opportunity, the session explored innovative strategies, policy frameworks, and technological solutions for sustainable manure management and circular bioresource utilization. Discussions emphasized the need to transition from conventional waste disposal approaches toward climate-smart livestock systems that integrate energy recovery, nutrient recycling, and One Health perspectives. The session also highlighted regional experiences and scalable models that can reduce emissions while improving farm productivity and environmental sustainability.

### Animal waste and associated risks



### Context

Livestock systems generate approximately 18.2 billion tons of waste annually. Poor manure management contributes significantly to methane and nitrous oxide emissions.

### Major Findings



- CAFOs intensify environmental risks.
- Manure treatment lags behind human sanitation systems.
- Climate-smart livestock systems are underdeveloped.

## Policy and Technology Options

Intervention	Climate Benefit	Scalability
<b>Biogas Digesters</b>	Methane capture	High (with incentives)
<b>Manure Separation</b>	Reduced nutrient runoff	Moderate
<b>Composting</b>	Soil health improvement	High
<b>Smallholder Biogas Units</b>	Clean energy + fertilizer	High

## Strategic Direction

Integrate livestock waste management within:

- National climate policies (NDCs)
- One Health frameworks
- Circular bioeconomy strategies

## II. CoP 3: Technological Options for Food Waste Management

*Flaw in the FLAW!*

**Our Speaker:**

### Session Topic:

#### ☑ Management of Food Waste: Technological Options



**Prof. A.K. Dikshit**

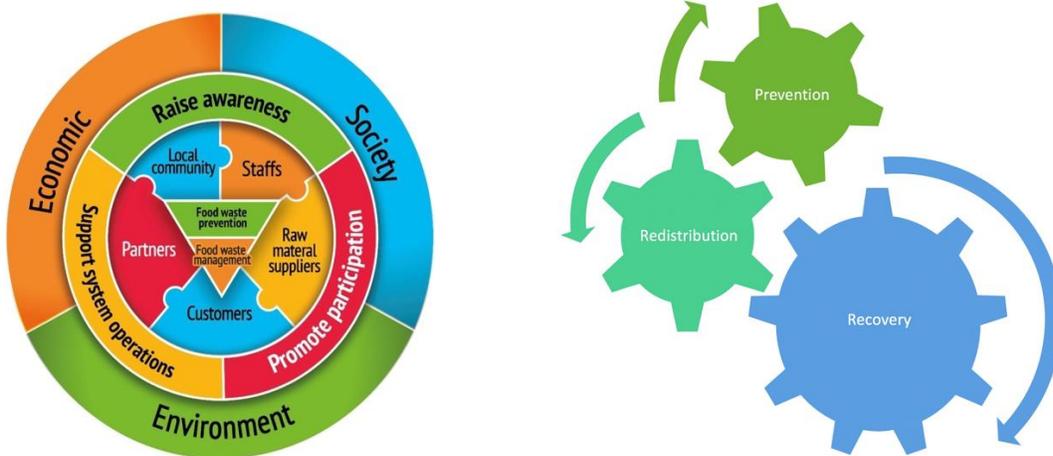
Environmental Science and  
Engineering Department  
Indian Institute of Technology (IIT)  
Bombay

The third session of the APAARI Community of Practice on Food Loss and Waste (FLAW–CoP) focused on exploring practical and scalable technological solutions for managing food waste across the value chain. As food waste continues to increase due to urbanization, changing consumption patterns, and inefficiencies in supply chains, the session emphasized the

importance of adopting innovative technologies that prioritize prevention, recovery, and resource valorization before disposal.

The discussions brought together experts from academia, industry, civil society, and development organizations to examine both mature and emerging technologies, ranging from composting and anaerobic digestion to advanced bioconversion and thermal treatment methods. The session highlighted that technological interventions must be economically viable, socially acceptable, and adaptable to smallholder and low-resource contexts in the Asia–Pacific region. Overall, the CoP underscored the need for integrated technology pathways combined with behavioral change and policy support to enable sustainable and circular food waste management systems.

### Waste Hierarchy Framework



The CoP emphasized that prevention generates the highest socio-economic and environmental returns.

### Mature Technologies

- Composting (including BASP systems)
- Anaerobic digestion
- Food-to-feed conversion

### Emerging Technologies

Technology	Potential	Limitation
Dark fermentation	Hydrogen production	High cost
Hydrothermal carbonization	Biochar production	Energy intensive



<b>Pyrolysis</b>	Waste-to-energy	Capital requirements
<b>Photocatalysis</b>	Waste breakdown	Experimental stage

### Social Innovation Highlight

MySaveFood @ Ramadan (Malaysia) demonstrated large-scale volunteer mobilization and behavioral change, reinforcing that community engagement is as critical as technological deployment.

### III. CoP 4: Circular Economy Approaches

**COMMUNITY OF PRACTICE ON FOOD LOSS AND WASTE (FLAW)**  
*Flaw in the FLAW*

*Session Topic: "Circular Economy Approaches to Tackle Food Waste: Strategies, Systems, and Solutions"*

**Guest Speaker:** **Panelists:** **Moderator:**



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AGRICULTURAL RESEARCH  
INSTITUTIONS

The fourth session of the APAARI Community of Practice on Food Loss and Waste (FLAW–CoP) focused on advancing circular economy approaches as a transformative pathway for reducing food loss and waste (FLW) and building sustainable agri-food systems in the Asia–Pacific region. Moving beyond traditional linear models of “take–make–dispose,” the session



emphasized regenerative systems where resources are continuously reused, recovered, and reintegrated into production cycles, minimizing waste and environmental impacts.

The discussions highlighted that circular economy principles begin with prevention and system redesign, followed by recovery, recycling, and valorization of food and agricultural by-products into high-value resources such as bioenergy, bioplastics, and bio-based materials. Experts also explored policy integration, digital innovations, and business models that support circular transitions, while recognizing the importance of localized, culturally appropriate solutions. Overall, the session reinforced that circular economy strategies are essential for enhancing climate resilience, improving resource efficiency, and creating new economic opportunities across the food system.

## Paradigm Shift

From linear “take–make–dispose” to regenerative, circular food systems.

## Core Principles

- Design out waste
- Keep materials in use
- Regenerate natural systems

## Circular Valorization Pathways

Waste Stream	Valorization Option
Crop residues	Bioenergy, compost, bioplastics
Fruit waste	Nutraceutical extraction
Seafood by-products	Collagen & feed
Livestock waste	Biogas & organic fertilizer

## Digital and Policy Enablers

- Blockchain traceability
- AI-based demand forecasting
- National FLW targets in NDCs
- Incentives for circular MSMEs

Session Number	Session Title	Thematic Focus	Key Challenges Identified	Proposed Innovations and Technologies	Strategic Recommendations	Key Outcomes
CoP 1	Launching the CoP "The Silent Famine in Asia-Pacific"	Systemic gaps and innovation priorities in food systems; regional context of food loss and waste (FLAW).	Asia-Pacific accounts for nearly 50% of global FLW; 30-40% of food produced is lost annually; structural inefficiencies, governance gaps, and infrastructure limitations; "silent famine" undermining food security.	IoT-based tracking systems, smart and biodegradable packaging, frugal cold chains, AI-based farmer advisory tools, and nudging strategies.	Embed FLAW targets in national development plans; harmonize regional standards; strengthen food safety regulations for redistribution.	Establishment of a shared regional vision: "Food loss and waste is misplaced value, not waste"; formation of a regional stakeholder network.
CoP 2	Animal Agriculture and GHG Emissions	Livestock waste management and greenhouse gas (GHG) emissions (methane and nitrous oxide).	Livestock systems generate \$18.2 billion tons of waste annually; poor manure management; Concentrated Animal Feeding Operations (CAFOs) intensify risks; treatment lags behind human sanitation.	Biogas digesters (methane capture), manure separation (nutrient runoff reduction), composting (soil health), and smallholder biogas units.	Integrate livestock waste management into National climate policies (NDCs), One Health frameworks, and circular bioeconomy strategies.	Recognition of climate-smart livestock waste solutions; identification of waste as a resource opportunity for energy and nutrients.
CoP 3	Technological Options for	Practical and scalable	Increasing waste due to	Mature: Composting (BASP), Anaerobic	Scale proven solutions (e.g.,	Identification of scalable

	Food Waste Management	technological solutions prioritizing prevention, recovery, and resource valorization.	urbanization and changing consumption; need for technologies to be economically viable and adaptable for smallholders.	digestion, Food-to-feed. Emerging: Dark fermentation (hydrogen), Hydrothermal carbonization (biochar), Pyrolysis, and Photocatalysis.	Anaerobic Digestion, composting); pilot emerging technologies; focus on the Waste Hierarchy Framework where prevention is the top priority.	technologies; highlight of social innovation (e.g., MySaveFood @ Ramadan) for behavioral change.
CoP 4	Circular Economy Transitions	Circular economy approaches for sustainable and regenerative food systems.	Linear "take–make–dispose" models; need to redesign systems to keep materials in use and regenerate natural systems.	Valorization pathways: Bioenergy/bioplastics from crop residues, nutraceutical extraction from fruit waste, collagen from seafood by-products, and biogas from livestock waste; Blockchain and AI demand forecasting.	Promote IoT and digital traceability; support circular MSMEs and startups; create green financing mechanisms.	Circular economy positioned as a strategic framework to link climate mitigation, food security, and green entrepreneurship.

• **Important supporting areas**

**Cross-Cutting Insights.**

The discussions across all sessions of the APAARI FLAW–CoP collectively revealed that food loss and waste is fundamentally a systemic challenge rather than an isolated technical problem. The issue reflects interconnected weaknesses across production systems, supply chains, market structures, consumer behavior, infrastructure, and policy environments. Participants observed that inefficiencies at one stage often cascade through the entire value chain, amplifying losses and environmental impacts. Structural barriers such as limited access to technology for smallholders, inadequate cold-chain infrastructure, fragmented governance frameworks, and insufficient real-time data further exacerbate the problem. At the same time, socio-cultural factors including consumption patterns, behavioral norms, and awareness gaps play a critical role in shaping waste generation. These insights underscore the necessity of integrated, multi-sectoral



solutions that combine technological innovation, policy reform, behavioral change, and circular economy principles to address the root causes of food loss and waste across the Asia–Pacific region. This issue reflects system challenges for that matter observe :

### **FLAW as a Systems Challenge**

FLW intersects:

- Production systems
- Markets
- Consumer behavior
- Policy structures
- Cultural practices

### **Identified Gaps**

- Absence of harmonized regional data
- Limited climate finance allocation
- Weak regulatory support for redistribution
- Insufficient smallholder integration

### **Strategic Opportunity**

Circular economy provides a unifying framework linking:

- Climate mitigation
- Food security
- Resource efficiency
- Green entrepreneurship

### **Strategic Recommendations:**

Drawing on the combined insights from all four sessions of the APAARI FLAW–CoP, the strategic recommendations emphasize the need for an integrated and systemic approach to addressing food loss and waste across the Asia–Pacific region. The CoPs collectively highlighted that meaningful progress requires simultaneous action across policy, technology, market systems, and behavioral change, supported by strong regional collaboration and circular economy principles.

At the policy level, embedding FLAW reduction targets within national development plans, agricultural strategies, and climate commitments is essential to ensure institutional alignment and sustained investment. Harmonizing regional standards and strengthening food safety regulations particularly for food redistribution can further enable cross-country cooperation and scalable interventions. Technological advancement should focus on scaling proven solutions such as anaerobic digestion, composting, improved cold chains, and livestock waste



management systems, while also piloting emerging innovations and promoting digital tools, including IoT-based monitoring and traceability platforms, to enhance efficiency across value chains.

Market-oriented interventions are equally critical, with emphasis on improving post-harvest logistics, strengthening supply-chain infrastructure, and supporting micro, small, and medium enterprises (MSMEs) and circular startups through financing mechanisms and innovation ecosystems. Green financing and investment incentives can accelerate the adoption of sustainable technologies and business models. Finally, behavioral and societal transformation remains a foundational pillar, requiring school-based education programs, public awareness campaigns, and institutional reforms within hospitality, retail, and event management sectors to reduce waste at the consumption stage.

Overall, the four CoP sessions converge on the understanding that reducing food loss and waste is not solely a technical challenge but a multidimensional systems transformation. Coordinated action across stakeholders governments, research institutions, private sector actors, civil society, and regional platforms such as APAARI will be essential to transition toward resilient, resource-efficient, and circular agri-food systems in the Asia–Pacific region.

### **Policy**

- Embed FLAW targets in national development plans.
- Harmonize regional standards.
- Strengthen food safety regulations for redistribution.

### **Technology**

- Scale proven solutions (AD, composting, cold chains).
- Pilot emerging technologies.
- Promote IoT and digital traceability.

### **Markets & MSMEs**

- Support circular startups.
- Improve post-harvest logistics.
- Create green financing mechanisms.

### **Behavioral Change**

- School-based awareness programs.
- Public campaigns.
- Institutional reforms in hospitality and event management.



## Implementation Pathway- A Proposal

The APAARI, through the FLAW–CoP, concluded that an effective implementation pathway for reducing food loss and waste (FLW) in the Asia–Pacific region should prioritize a phased, collaborative, and systems-oriented approach. The main focus is on translating knowledge into action by integrating policy support, technological adoption, stakeholder engagement, and circular economy principles into practical interventions across the food value chain.

APAARI emphasized that the pathway should begin with strengthening regional knowledge platforms and partnerships to facilitate information exchange, capacity building, and dissemination of best practices. This includes developing pilot projects and demonstration models in priority areas such as post-harvest management, livestock waste utilization, food redistribution systems, and circular bioeconomy innovations. Scaling successful models through policy alignment, financing mechanisms, and private-sector participation was identified as a critical next step.

Furthermore, APAARI highlighted the importance of empowering smallholders, MSMEs, youth, and local communities through training, digital tools, and entrepreneurship support to ensure inclusivity and sustainability. Monitoring and evaluation frameworks, supported by data-driven technologies and regional cooperation, are also essential to track progress and guide decision-making.

Overall, the implementation pathway focuses on moving from awareness to action and from isolated initiatives to coordinated regional transformation, positioning APAARI as a catalyst for innovation, partnership, and policy dialogue to accelerate the transition toward circular and climate-resilient food systems in the Asia–Pacific region.

Phase	Time Horizon	Focus Area
Phase I	1–2 Years	Knowledge consolidation & pilot projects
Phase II	3–5 Years	Scaling technologies & policy integration
Phase III	5+ Years	Institutionalization of circular systems

## Monitoring, Evaluation, and Learning (MEL)

The APAARI adopts a collaborative, participatory, and results-oriented approach to Monitoring, Evaluation, and Learning (MEL) to ensure that initiatives under the Community of Practice on FLAW–CoP generate measurable impact, foster continuous learning, and support evidence-based decision-making. The APAARI governance model emphasizes regional



coordination combined with country-level ownership, enabling flexibility while maintaining strategic alignment across Asia–Pacific member institutions.

Under the APAARI framework, MEL governance is guided by multi-stakeholder engagement involving research institutions, government agencies, private sector actors, civil society organizations, and development partners. A central coordinating mechanism typically facilitated by APAARI’s secretariat oversees progress tracking, knowledge documentation, and reporting, while thematic working groups and project partners contribute technical inputs and field-level data. This structure ensures accountability, transparency, and inclusiveness in monitoring outcomes related to food loss and waste reduction, circular economy adoption, and climate resilience.

APAARI’s MEL approach places strong emphasis on learning and knowledge exchange rather than compliance alone. Regular reflection workshops, Community of Practice dialogues, policy forums, and technical publications are used to disseminate lessons learned and best practices across member countries. Digital platforms and data-sharing tools are encouraged to support real-time monitoring and regional benchmarking.

Key governance priorities include:

- Establishing clear indicators aligned with regional and global frameworks (e.g., SDGs and climate targets).
- Strengthening institutional capacities for data collection, analysis, and reporting.
- Promoting participatory evaluation involving beneficiaries and stakeholders.
- Integrating feedback mechanisms to improve program design and implementation.
- Ensuring adaptive management based on evidence and emerging insights.

Overall, the APAARI MEL governance approach focuses on accountability, continuous improvement, and regional knowledge leadership, positioning the organization as a facilitator of innovation, partnership, and impact-driven transformation in sustainable agri-food systems across the Asia–Pacific region.

Proposed indicators:

- % reduction in FLW across pilot sites
- Volume of food redistributed
- GHG emissions reduced
- Number of circular MSMEs supported
- Policy reforms adopted

## Conclusions



The rewind of the APAARI Community of Practice on FLAW–CoP journey reflects an important initial phase in a long-term regional transformation process. While the initiative is still at a relatively early stage, it represents a critical “first step” toward building a shared vision, strengthening partnerships, and mobilizing stakeholders across the Asia–Pacific region. The progress achieved through the CoP sessions demonstrates growing recognition that addressing FLAW requires collective commitment from governments, research institutions, private sector actors, civil society, and communities. With sustained engagement and stakeholder support, these early efforts have strong potential to evolve into impactful regional actions.

The FLAW–CoP journey underscores that reducing food loss and waste is not an isolated technical challenge but a systemic transformation that spans production systems, supply chains, consumption behavior, policy frameworks, and environmental sustainability. By embracing circular economy principles, fostering regional collaboration, integrating climate-smart innovations, and catalyzing behavioral change, the Asia–Pacific region can reposition FLW from a development constraint into an opportunity for economic growth, resource efficiency, and climate resilience.

Importantly, the CoP has laid the foundation for sustained regional cooperation, where science, policy, markets, and communities converge to build resilient and regenerative food systems. The rewind process highlights not only what has been achieved but also the pathway forward—moving from awareness to implementation, from dialogue to action, and from fragmented initiatives to coordinated regional impact. With continued commitment, knowledge sharing, and stakeholder engagement, APAARI is well positioned to catalyze a transformative movement toward sustainable and circular agri-food systems across the Asia–Pacific region.

Section	Component	Key Highlights	Outputs/Outcomes
1	Introduction: The Silent Famine in Asia–Pacific	FLW as a major threat to food security, environment, and climate resilience; systemic inefficiencies across value chains	Established regional context and urgency for action
2	CoP 1: Launch of FLAW–CoP	Identification of systemic gaps, innovation needs, behavioral drivers, and stakeholder collaboration pathways	Formation of regional platform and shared vision



<b>3</b>	CoP 2: Animal Agriculture and GHG Emissions	Livestock waste challenges, methane emissions, manure management technologies, One Health approach	Recognition of climate-smart livestock waste solutions
<b>4</b>	CoP 3: Technological Options for Food Waste Management	Prevention hierarchy, composting, anaerobic digestion, emerging technologies, community engagement models	Identification of scalable technologies and innovation pathways
<b>5</b>	CoP 4: Circular Economy Approaches	Transition from linear to circular systems, resource efficiency, policy integration, digital innovations	Circular economy positioned as strategic framework
<b>6</b>	Cross-Cutting Insights	Systemic nature of FLW, infrastructure gaps, data limitations, behavioral factors	Need for integrated multi-sectoral solutions
<b>7</b>	Strategic Recommendations	Policy alignment, technology scaling, MSME engagement, behavioral change	Roadmap for regional implementation
<b>8</b>	Implementation Pathway	Pilot projects, partnerships, capacity building, financing mechanisms, scaling strategies	Action-oriented regional pathway
<b>9</b>	Monitoring, Evaluation, and Learning (MEL)	Participatory governance, indicators, knowledge sharing, adaptive management	Framework for accountability and learning
<b>10</b>	Institutional Collaboration	Multi-stakeholder engagement across Asia-Pacific	Strengthened regional cooperation network
<b>11</b>	Conclusion	Early-stage progress with strong stakeholder commitment and future growth potential	Foundation for long-term transformation



## Acknowledgements

The APAARI extends its sincere gratitude to all experts, speakers, and panelists who actively contributed their knowledge, time, and insights to the Community of Practice (CoP) on FLOW throughout 2025. Their valuable perspectives and technical expertise were instrumental in shaping meaningful discussions and advancing regional understanding on food loss and waste reduction. APAARI also deeply appreciates all participants who joined the sessions from different time zones across the Asia–Pacific region, demonstrating strong commitment and collective responsibility toward building sustainable and circular food systems. We acknowledge with appreciation the dedicated logistical and organizational support provided by the APAARI team, which ensured the smooth planning and successful implementation of the CoP sessions.

A heartfelt note of gratitude is conveyed to Dr. Ravi Khetrpal, Executive Director of APAARI, for his visionary leadership, encouragement, and trust in providing the opportunity to lead and coordinate this Community of Practice on Food Loss and Waste. His guidance and support have been invaluable in strengthening regional collaboration and advancing awareness on this critical issue. Special thanks are extended to colleagues Manish, Kharath, Sah, Darshika, Sonom, and all APAARI team members whose continuous cooperation and teamwork contributed significantly to the success of this initiative.

Finally, sincere appreciation is extended to all esteemed speakers, panelists, and participants whose engagement, enthusiasm, and shared commitment have created momentum toward reducing food loss and waste in the region. The collective efforts of all stakeholders serve as a powerful reminder that even small actions, when undertaken collaboratively, can generate meaningful and high-impact change toward sustainable and resilient food systems.



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