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Converting waste into resources in cities of Asia-Pacific: experiences from ESCAP's regional programme on pro-poor and sustainable solid waste management

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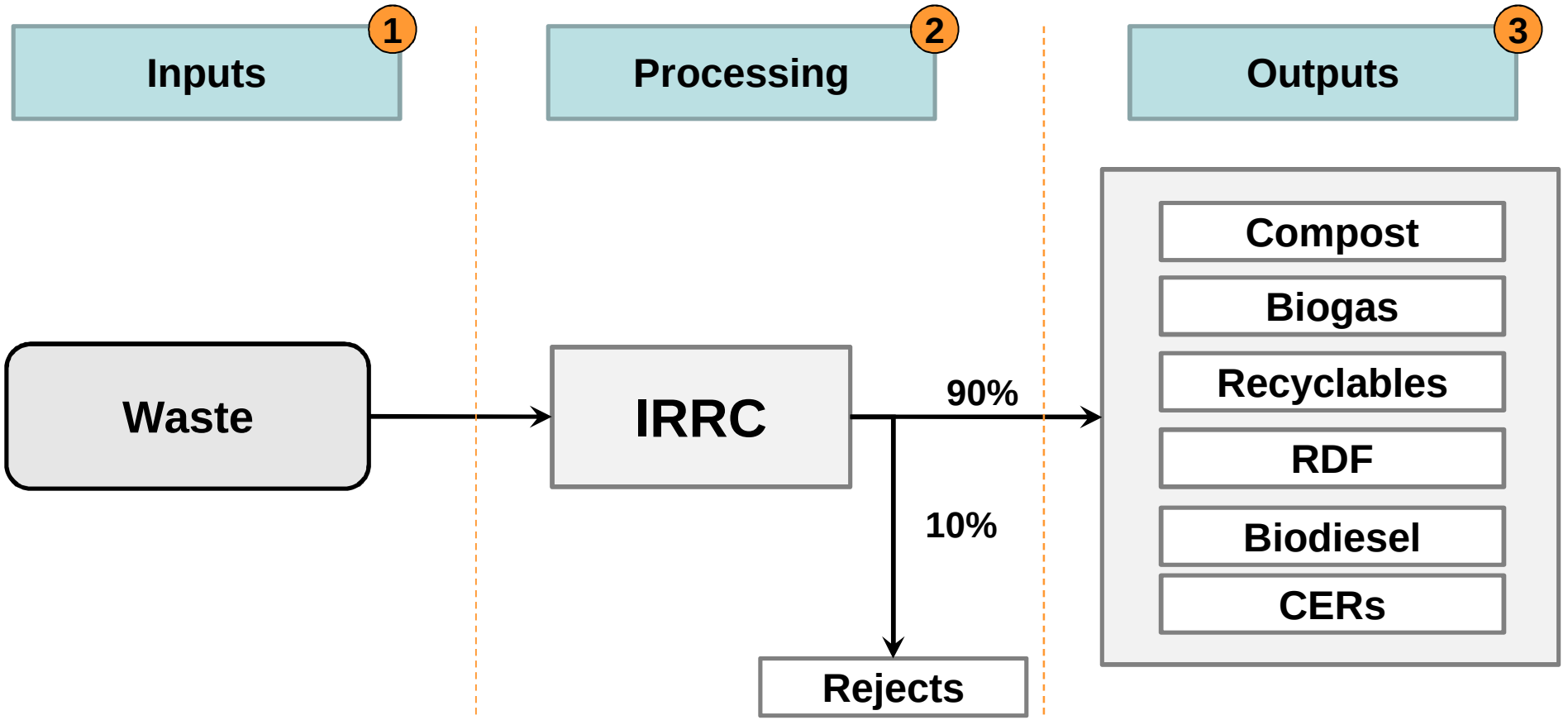
Promoting pro-poor and sustainable solid waste management

- Since 2009, ESCAP and Waste Concern have been helping cities in the Asia-Pacific region to manage their solid waste in a pro-poor, sustainable and economically viable manner through the project “Pro-poor and sustainable solid waste management in secondary cities and small towns”

- The programme has established waste-to-resource initiatives in several cities in the region with the application of the **Integrated Resource Recovery Centre** model developed by Waste Concern

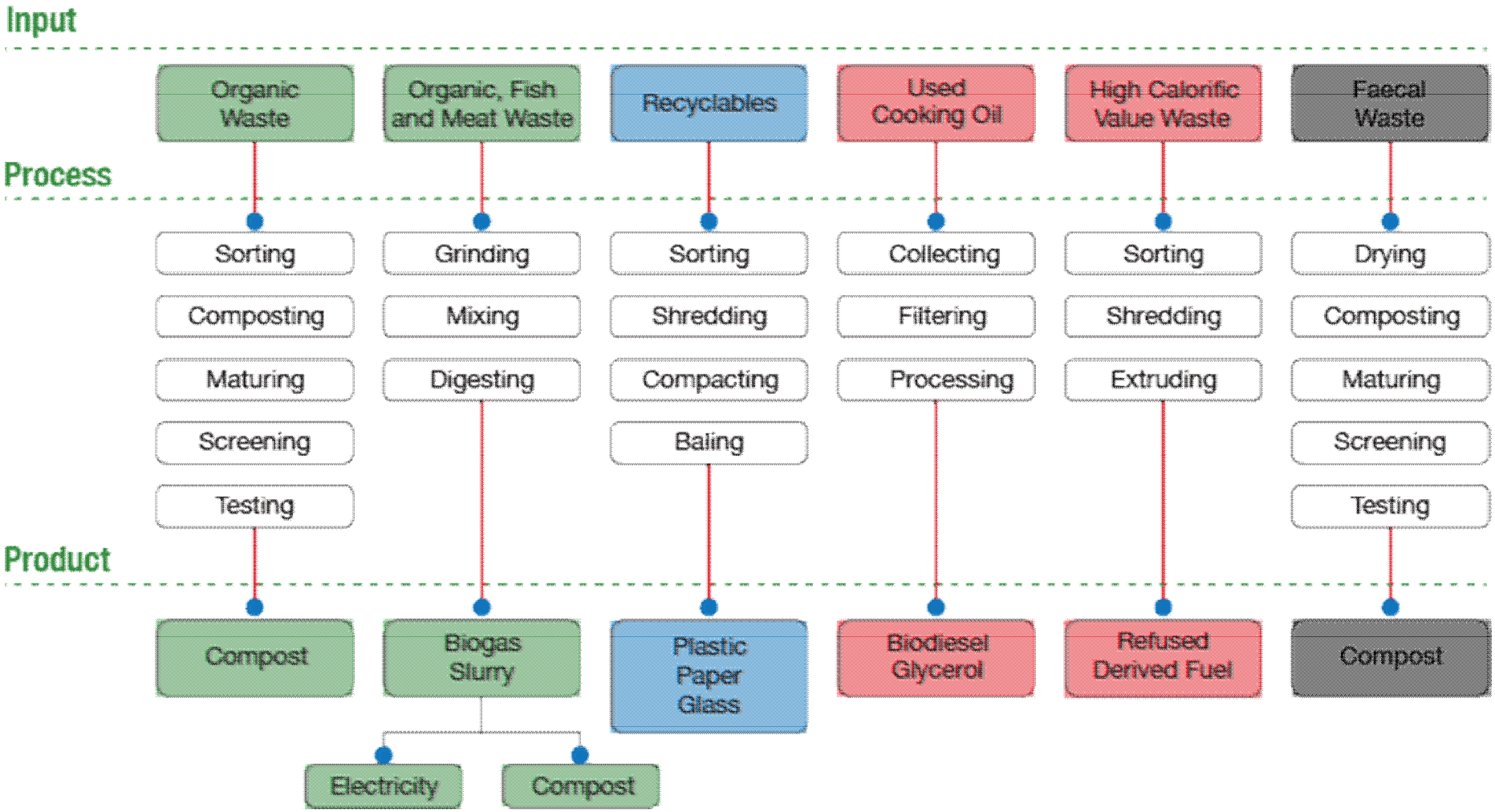
Transforming waste into resources with IRRCs

An **Integrated Resource Recovery Center (IRRC)** is a facility where a significant portion (80-90%) of waste can be processed in a cost effective way, in proximity to the source of generation, and in a decentralized manner.



Transforming waste into resources with IRRCs

Several approaches for converting waste into resources are available as part of the IRRC model…



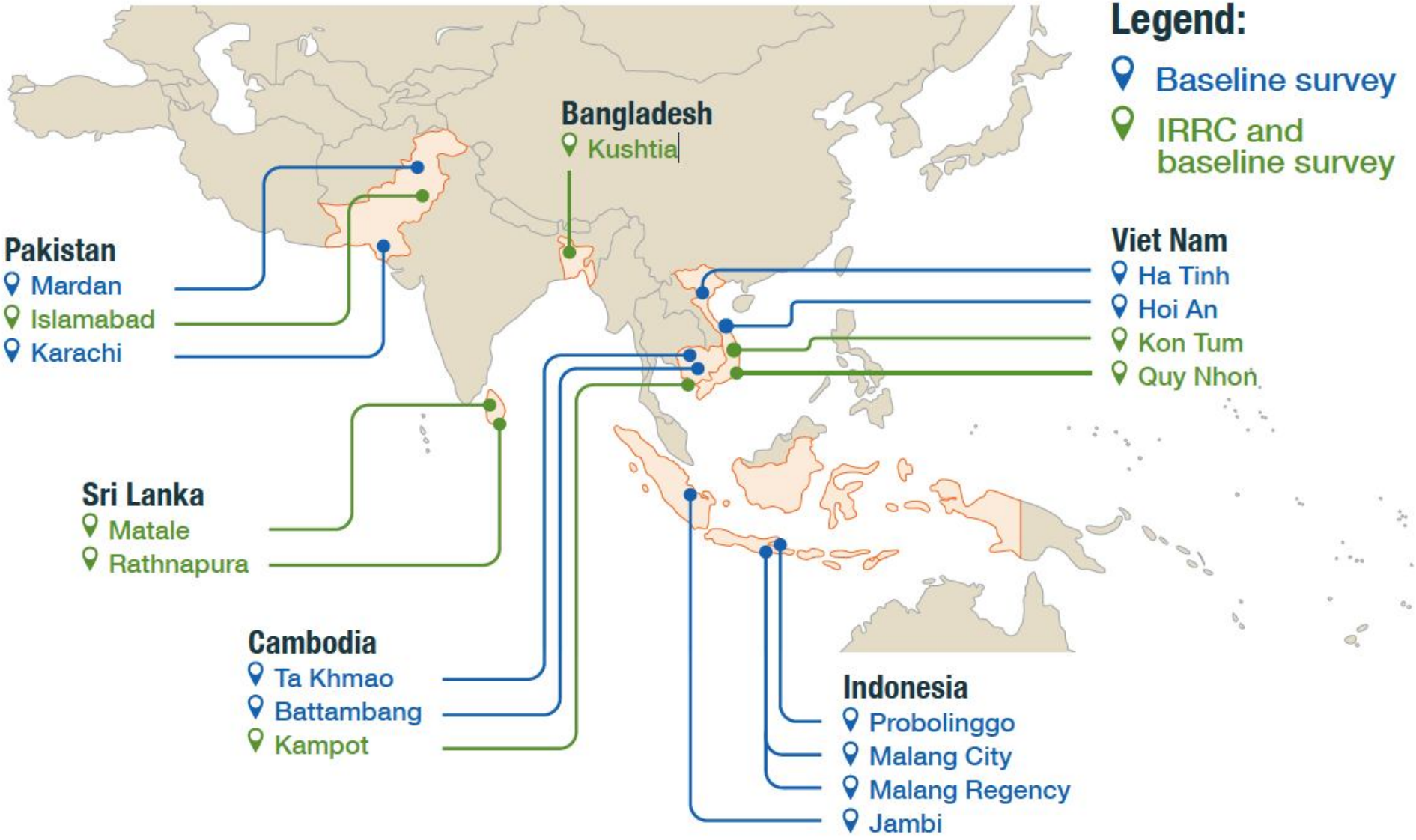
How does an IRRC look like?






Overview of ESCAP's Regional Programme

Initiatives across 17 cities, 6 countries



Lessons learned and recommendations

A set of lessons learned and recommendations are formulated in the publication “Valuing Waste, Transforming Cities” from more than six years of field-level experience in implementing waste-to-resource initiatives

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Building partnerships

- Partnerships with stakeholders are essential for sustainable waste-to-resoirce initiatives
- Different partners can contribute with different resources to the initiative
- There is a need to establish the correct partnership structure
- Partnership arrangements should be aligned with local conditions and their specific needs

Improving awareness and changing behavior

- Changes in mind sets and perceptions are essential
- Changing behaviors takes time, patience and a sustained engagement
- Source separation begins with changing individual actions
- New behaviors need to be supported by appropriate infrastructure
- Informal sector engagement helps to achieve broad community change

Managing facilities and improving operations

- A business plan, job descriptions and careful accounting are fundamental
- Key performance indicators need to be established and monitored
- Diversifying revenue sources builds financial resilience
- Collection and tipping fees are usually required to achieve cost-recovery
- Improving quality helps to open markets

Creating an enabling environment for upscaling

- Policy change is best achieved following a successful pilot project
- Engaging markets can support the sale of biogas, compost and other products
- Upscaling is a long-term goal that requires shifts in policy and behavior
- Upscaling should be incremental and modular
- National programmes and financing are especially useful for replication
- International climate change financing can be leveraged for replication

Linking waste-to-resource initiatives with NAMAs

Nationally Appropriate Mitigation Actions (NAMAs) can support linking waste-to-resource initiatives with climate financing opportunities

Waste-to-Resources NAMA for Cities in Viet Nam

- The NAMA aims to support the implementation of “waste-to-resource” approaches in cities of Viet Nam
- A detailed NAMA-design study is now finalized and will soon initiate a process of inter-ministerial consultations
- The Institute of Meteorology, Hydrology and Climate Change of Vietnam (IMHEN) has prepared the design of this NAMA with the support of ESCAP

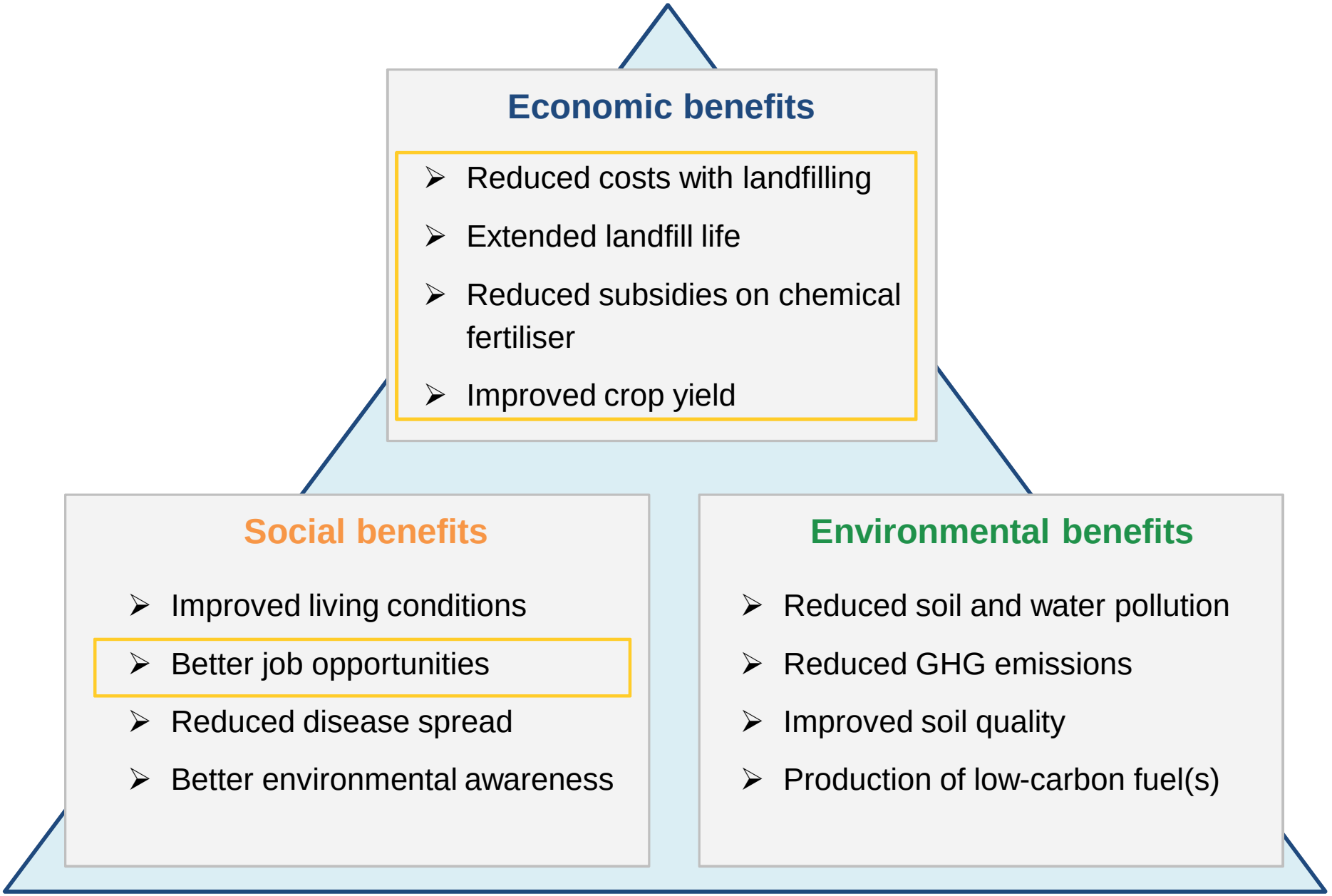
Linking Sri Lanka’s Pilisaru programme with NAMAs

- ESCAP is supporting the government of Sri Lanka in exploring opportunities to link an existing programme – the *Pilisaru* national programme on solid waste management – with NAMAs
- A NAMA programme is being prepared with the support of ESCAP in close articulation with the Sri Lanka Central Environmental Authority, and it is expected to be finalized in the second quarter of 2016

Relevance to the 2030 Agenda for Sustainable Development

Sustainable waste management practices can also contribute to the achievement of many sustainable development goals…

SD benefits of “waste-to-resource” initiatives



Quantifying and monetizing co-benefits

Research conducted by ESCAP and Waste Concern quantified, in a conservative manner, the benefits that can result from the adoption of "waste-to-resource" initiatives

Benefit	Type	Value (US$/ton)		
		Bangladesh	Sri Lanka	Viet Nam
Job creation with additional income for informal waste sector workers employed	**Social/Economic** (Public & Private)	**3.8**	**3.0**	**N/A**
Cost savings for the municipality in avoided landfilling of waste	**Economic** (Public)	**11.7**	**28.8**	**34.9**
Savings in chemical fertilizer use (25% reduction)	**Economic/Environmental** (Private & Public)	**4.9**	**1.1**	**10.6**
Savings in subsidies with chemical fertilizers	**Economic** (Public)	**2.1**	**2.7**	**N/A**
Increase in crop yields	**Economic** (Private & Public)	**24.5**	**21.5**	**46.7**
TOTAL BENEFIT (USD per 1 ton of organic waste)		**47**	**57**	**92**

Source: ESCAP and Waste Concern, 2015

Experiences and research collected into a range of products

Thank you for the attention!

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http://www.unescap.org/our-work/environment-development/urban-development