



IPLA in the Context of Sustainable and Resilient Cities: Towards Realizing Rio+20 Outcome – “The Future We Want”

IPLA Global Forum 2012

***Empowering Municipalities in Building Zero Waste Society
- A Vision for the post-Rio+20 Sustainable Urban Development,
Seoul, Republic of Korea, 5-6 September 2012***

**In conjunction with
Resource Recirculation Week (3-7 Sep. 2012)**

**CRC Mohanty,
Environment Programme Coordinator, UNCRD**

What is a sustainable city?

A sustainable city is a city where achievements in social, economic, and physical development are made to last. A sustainable city has a lasting supply of the natural resources on which its development depends (using them only at a level of sustainable yield). A sustainable city maintains a lasting security from environmental hazards which may threaten development achievements (allowing only for acceptable risk).

UN Habitat, (United Nations Human Settlements Programme)

What are resilient cities?

Resilience is the capacity and ability of a community to withstand stress, survive, adapt, bounce back from a crisis or disaster and rapidly move on. Resilience needs to be understood as the societal benefit of collective efforts to build collective capacity and the ability to withstand stress (ICLEI, 2011).

“Cities need to build resilience, not only to climate impacts but to all kind of potential shocks and crises” - Konrad Otto-Zimmermann, ICLEI Secretary General and Congress Chair, Resilient Cities 2012

Climate change mitigation and adaptation should not be treated as two separate goals. Planning priority should be given to measures that contribute to both, such as improvement of wastewater treatment systems, green spaces, building standards, and public facilities - 3rd Global Forum on Urban Resilience and Adaptation, May'2012

Local governments should apply local economic instruments such as charges and taxes for emitters and polluters (carbon, waste water, solid waste, property taxes for vulnerable locations) and subsidies and tax incentives for developments contributing to financing resilience. Private investment, fostered through developments that increase resilience, will be crucial to fund all necessary investment in adaptation. Public Private Partnerships (PPP) should be used from the inception stages of a project, to ensure it is feasible and profitable - 3rd Global Forum on Urban Resilience and Adaptation, May'2012

Resilience, in turn, increases the attractiveness and competitiveness of cities for investment by businesses through - lower costs for public services (transportation, energy, waste management, clean water supply, etc.), lower risk of disruption to business, lower long-term insurance costs, job creation in a range of low-to-high skilled occupations – Adapted from 3rd Global Forum on Urban Resilience and Adaptation, May'2012

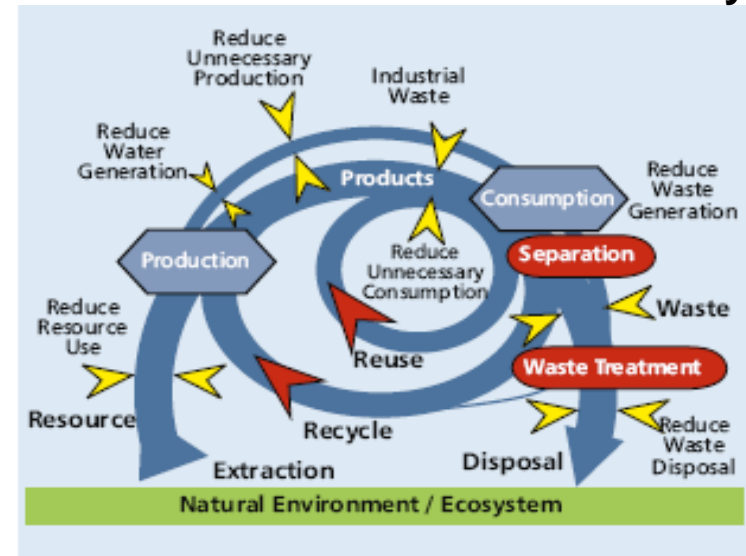
What is a resource efficient economy and society?

1. One-way Economy



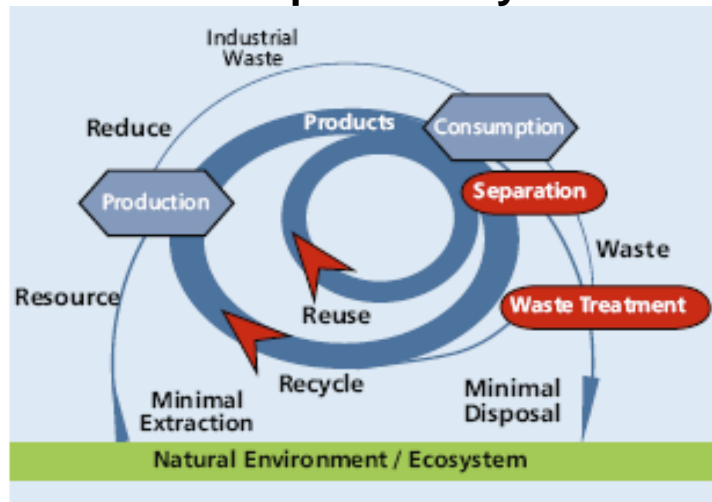
Source: ADB.

2. More resource efficient economy



Source: ADB.

3. Closed Loop Economy



Source: ADB.

1. **one way economy** -> a little effort is made to reduce the amount of materials consumed in production and hence the wastes are produced. Also little effort is made to reuse or recycle those wastes which mainly go for landfill.
2. **greater resource efficiency** -> by reducing consumption and waste of materials, and by reusing and recycling by products. By implementing measures on both the production and consumption sides, countries may be able to reduce (per unit of product) both the quantity of the resource extraction stream and the quantity and environmental impact of the residual materials flow that ultimately reaches disposal sites.
3. **closed-loop economy** -> nearly all outputs either become inputs to other manufacturing processes or are returned to natural systems as benign emissions rather than as pollutants, e.g. a closed-cycle processing plant takes in freshwater and does not discharge any liquid effluents. Rather, the water is constantly recycled and possibly utilized in the final product itself

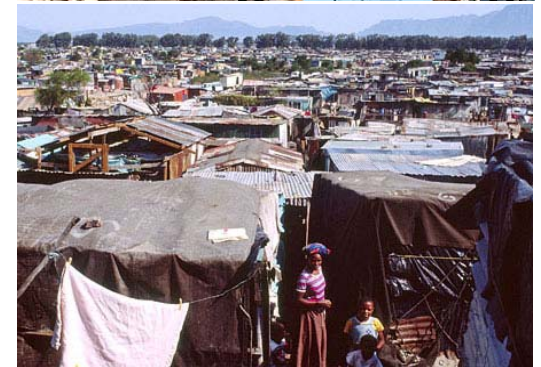
Urbanization trend and its impacts

Facts and figures

- ✓ Half of humanity – 3.5 billion people – live in cities today.
- ✓ By 2030, almost 60 per cent of the world's population will live in urban areas.
- ✓ 95 per cent of urban expansion in the next decades will take place in developing world.
- ✓ 828 million people live in slums today and the number keeps rising.
- ✓ The world's cities occupy just 2 per cent of the Earth's land, but account for 60-80 per cent of energy consumption, 75 per cent of carbon emissions, approximately 70% of global GDP, and consume 70% of all resources.
- ✓ Rapid urbanization is exerting pressure on fresh water supplies, sewage, the living environment, and public health.

Source: United Nations 2012

<http://www.un.org/en/sustainablefuture/cities.shtml#overview>



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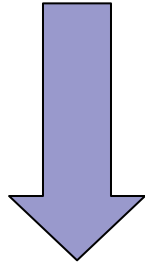
Challenges faced by Local Authorities (LAs)

Generation of wastes:

- Estimated quantity of waste collected worldwide is at between 2.5 and 4 billion metric tons.
- Estimated municipal waste collected world wide is 1.2 billion metric tons (2004).
- Cities often spend between 5 to 15 per cent of their total budget on solid waste management. **In low-income countries, 90 per cent or more of that budget is spent on waste collection alone, while only 45 to 60 per cent of the waste is actually collected (UN HABITAT).**



Photo courtesy: C. Viengsan, ITC38 Training Course Participant, UNCRD.



Providing waste collection to all the people, while raising the environmental standards of waste disposal, is a major challenge for Local Authorities (LAs), which lack required institutional, financial and technical capacity.



“Moving towards zero waste is inherently a multi-stakeholder process which calls for partnerships within and between communities, businesses, industries, and all levels of government.”

Rio+20 Outcome – The Future We Want

In the “Future We Want”, the States call for:

- **Increasing resource efficiency and reduction of waste** to achieve green economy in the context of sustainable development and poverty eradication to enhance the ability to manage natural resources sustainably and with lower negative environmental impacts
- **development and implementation of policies for resource efficiency** and environmentally sound waste management, including commitment to further **3Rs** as well as to increase energy recovery from waste with a view to managing the majority of global waste in an environmentally sound manner
- development and enforcement of comprehensive **national and local waste management policies, strategies, laws and regulations.**
- continued, new and innovative **public-private partnerships** among industry, governments, academia and other non-governmental stakeholders aiming to enhance **capacity and technology** for environmentally sound chemicals and waste management, including for **waste prevention**



Rio+20 Outcome – The Future We Want

Sustainable cities and human settlements

(para. 134-137)

Among others, the States



RIO+20
United Nations Conference
on Sustainable Development

- recognize that, if they are well planned and developed, including through **integrated planning and management approaches**, cities can promote economically, socially and environmentally sustainable societies.
- commit to promote sustainable development policies that support a **safe and healthy living environment for all, safe and clean drinking water and sanitation**; healthy air quality; generation of decent jobs; and improved urban planning and slum upgrading.
- support sustainable management of waste through the application of the **3Rs**.
- emphasize the importance of increasing the number of metropolitan regions, cities and towns that are implementing **policies for sustainable urban planning and design** in order to respond effectively to the **expected growth of urban populations in the coming decades**.

Rio+20 Outcome – The Future We Want

Chemicals and waste (para. 213-223)



Among others, the States call for:

- *Sound management of chemicals and waste* which is crucial for the protection of human health and the environment.
- *development and implementation of policies for resource efficiency* and environmentally sound waste management, including commitment to further **3Rs** as well as to increase energy recovery from waste with a view to managing the majority of global waste in an environmentally sound manner
- development and enforcement of comprehensive *national and local waste management policies, strategies, laws and regulations*.
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Rio+20 Outcome – The Future We Want

Other thematic areas and cross-sectoral issues..



RIO+20
United Nations Conference
on Sustainable Development

Ocean and seas/coastal ecosystem:

- commit to protect, and restore, the health, productivity and resilience of oceans and marine ecosystems, and to maintain their biodiversity, enabling their conservation and sustainable use for present and future generations..(para 158)
- commit to take action to reduce the incidence and impacts of various marine pollution such as debris, especially **plastic**, persistent organic pollutants, heavy metals and nitrogen-based compounds, from a number of marine and land-based sources, including shipping and land run-off (para 163).

Sustainable production and consumption:

- recognize that **fundamental changes in the way societies consume and produce** are indispensable for achieving global sustainable development (para 224).

Major Achievements and Impacts of IPLA

- IPLA Declaration for Moving towards Zero Waste, 18 Oct. 2011, Daegu, Rep. of Korea
- Marrakech Declaration towards "Greening" the Waste Sector in the Middle East and North Africa Region, 17 May 2012, Marrakech, Morocco.
- Series of IPLA Forums in Latin America in 2011 and 2012 contributing to increasing motivation of Municipalities/Mayors for moving towards resource efficient and zero waste society (e.g., Bogotá City Administration (UAESP) is promoting zero waste strategy)



3Rs

LOCAL

NATIONAL

Converge

Zero Waste

REGIONAL

Value Chain

Composting

WtE

Recycling

Resource Efficiency

EPR

Value Chain

Waste generation

Final Waste Disposal
= 0 => Landfill = 0



Zero Waste – A vision that leads cities towards a sustainable future

- **Zero waste** is a long-term vision that ultimately envisages a thriving society that exists within nature's resource constraints and its ability to assimilate waste.
(Chair's Summary of the CSD19 Intersessional Conference on Building Partnerships for Moving Towards Zero Waste, 16-18 February 2011, Tokyo, Japan)
- **Zero Waste** could represent a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use.
(Zero Waste International Alliance; <http://zwia.org/>)
- **Zero waste** is an approach that involves reducing consumption, minimising waste, maximising recycling and composting, and ensuring that products and materials are designed to use less resources and made to be reused, recycled or biodegradable. Nature is the best Zero Waste model. There is no waste in nature and by-products produced become resources for others or are assimilated harmlessly back to the surroundings.
(Zero Waste Singapore; <http://www.zerowastesg.com/zero-waste/>)
- **Zero Waste** is complete waste free society, not just transferring the problem from one place to another (Multi-stakeholders Consultation on Zero Waste Road Map for Ahmedabad/India, 18 April 2012).

Major Elements of Daegu Declaration of IPLA Members (18 Oct'2011)

	Green Economy			Rio+20 Outcome – The Future We Want / Framework for Action			
	Environmentally protective/ Low Carbon	Resource (material, water, energy) efficient economy	Socially Inclusive /poverty eradication /green jobs /health	Sustainable & resilient cities	Decent work /social protection /health	Ocean and marine /coastal ecosystem	Water and sanitation /fresh water ecosystem
1. move forward to a resource efficient and zero waste society by promoting effective collaboration and partnerships among national and local authorities, municipalities, the private and business sector, NGOs, scientific and research organizations, and all other related entities;	✓	✓	✓	✓	✓	✓	✓
2. mainstream zero waste and resource efficiency into the political agenda as well as city development strategies as a pre-requisite to moving towards a green economy, and the required changes in the existing institutional arrangements at the local, regional, and national levels	✓	✓	✓	✓	✓	✓	✓
3. enable local authorities to share their experiences on institutional, business, and financial models that have been successful or otherwise in addressing opportunities and specific waste problems, including new emerging wastes such as e-waste and plastics in a marine environment;			✓	✓		✓	



Major Elements of Daegu Declaration of IPLA Members (18 Oct'2011)

Green Economy ↔ Rio+20 Outcome – The Future We Want / Framework for Action

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4. Strengthen efforts of local authorities in the expansion of waste management-related services and infrastructure (e.g., eco-industrial zones)	✓	✓	✓	✓	✓	✓	✓
5. awareness-raising and capacity-building programmes targeting the local authorities and other stakeholders, especially to decouple waste generation from economic development and to manage complex and new emergent waste streams	✓	✓		✓			✓
6. promote practice-oriented knowledge network to help formulate innovative projects, select most appropriate technologies, access expertise, and promote waste exchange (waste to resource) opportunities	✓	✓	✓	✓			



Development of the “Road Map for Zero Waste Ahmedabad”

Road Map for Zero Waste Ahmedabad

- Expected to serve as a visionary document that will guide AMC to introduce and implement necessary policies and strategies, and to sensitize citizens, businesses and industries in Ahmedabad to work together in a collaborative framework towards achieving a zero waste society.

THE TIMES OF INDIA

Ahmedabad

UN funds study for waste-free city

TNN Feb 15, 2012, 04:35AM IST

AHMNEDABAD: After carrying out an intensive drive for efficiency on a project for a waste-free Ahmedabad.

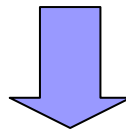
The project for preparing a roadmap for this purpose will be Development (UNCRD). This is for the first time that a UN body for a garbage-free city in Gujarat. The Ahmedabad Municipality once it is prepared by the UN body.



- **Multi-stakeholder Consultation Meeting towards the Development of the “Road Map for Zero Waste Ahmedabad, 17-18 April 2012, Ahmedabad, India**
- **Multi-Stakeholders Consultation on Pre-Final Draft Road Map, 11-12 Sep 2012, Ahmedabad, India**
- **Official Launch of the Final Road Map, Jan’2013, Ahmedabad, India**

Key Message of IPLA: Partnership is key to expand waste management services of local authorities that lack resources, institutional capacity, and technological know-how...

- **Partnerships** offer alternatives in which governments and private companies assume co-responsibility and co-ownership for the delivery of solid waste management services. Waste disposal is expensive – financially and in lost resources (substantial inputs of labour, material, energy, land resources for land filling, etc.)
- **Partnerships** combine the advantages of the private sector (dynamism, access to financial resources and latest technologies, managerial efficiency, and entrepreneurial spirit, etc.) with social concerns and responsibility of the public sector (public health and better life, environmental awareness, local knowledge and job creation, etc.).
- **Partnerships** (PPP) are indispensable for creating and financing adaptation measures towards resilient cities which in turn are more attractive for private investments.
- **Partnerships** provide win-win solutions both for the public utilities and private sector—if duly supported by appropriate policy frameworks. Such partnerships could lead to savings in municipal budgets where waste management usually consumes a large portion. The private sector, on the other hand, may use this opportunity to convert waste into environmentally friendly products and energy that could also serve as income generating opportunities.



Shifting the roles of municipalities from being a 'service provider' to 'facilitator of service', by focusing its activity on planning and management, while a private company takes up the actual day-to-day operation.

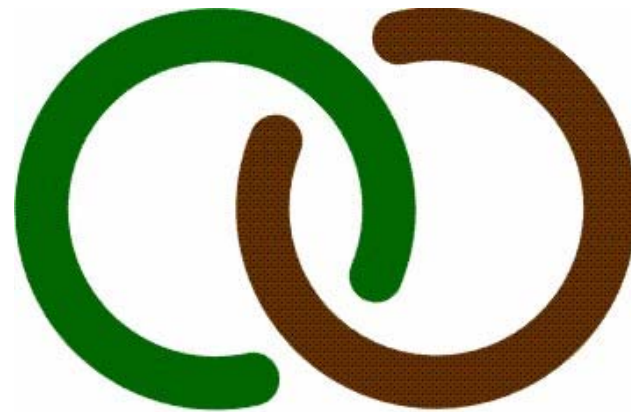
There are many other key stakeholders who can play very important role in promoting resource efficiency/3Rs

National Government	Develop policies, programs, and institutions, innovative financing for resource efficiency / 3R infrastructures (eco-towns, eco-industrial parks, R&D facilities (Environment, 3Rs, Nano-Technology, IT, Biotechnology) etc.), create conducive policy framework to encourage PPPs, capacity building programs/facilities for SMEs, awareness programme for citizens, green procurement, develop and institute EPR system, foster triangular cooperation (government-private/industry-R&D/Universities) for , circular economic approach, green growth, technology transfer, information clearing house, etc.
Local Government	Integrate resource efficiency in urban development policy and strategy (energy, transport, water, industry), innovative financing for resource efficient infrastructure (eco-towns, eco-industrial parks, R&D facilities, etc.), realize PPPs, awareness programs for citizens, green procurement
Private / Industry Sector	Develop strategies to commercialize 3Rs, Environmental performance reporting, R&D (3R technologies, green products, waste recycling, waste exchange, green purchasing, PPP, in-house capacity building programs, CSR,
Banks / Financial institutions	Investment/loan schemes for eco-town projects and green industries
Scientific and Research Institutions / Universities	Provide back up for science based policy making at government level, develop dedicated R&D projects on resource efficiency/3Rs in collaboration with government and business/industry sector, create human resources and experts in the field of resource efficiency/3Rs, look for international collaboration (University-University, University-Multi-national corporation), catalyst for decision makers, technology evaluation.
Citizens / NGOs	Promote green consumerism, community awareness raising on house-hold waste segregation and its contribution to resource efficiency/3Rs, knowledge dissemination

(Source: C.R.C. Mohanty, 2012)



IPLA – International Partnership for Expanding Waste Management Services of Local Authorities



IPLA



(You are welcome to join IPLA by registering at - http://www.uncrd.or.jp/env/ipla/index_form.htm)