Integrated Solid Waste Management

Wuxi New District, PRC

Stakeholders' Concerns

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Identifying Stakeholders

1. Waste generators
2. Service providers
3. Regulators
4. Government departments
5. Recycling sector
6. Community or neighbourhood

Stakeholders w.r.t. Source

MSW

- Domestic Waste (Residential)

2. Commercial – small businesses

ISW

- Industrial – process waste (hazardous & non hazardous)

4. Healthcare – hazardous waste

At Each Operational Stage

Stakeholders & Activities	Waste Generators	Service Providers	Regulators	Government	Actors in Recycling & Resource Generation	Community
Source Segregation						
Collection						
Transportation						
Treatment						
Disposal						
Recycling & Resource Generation						

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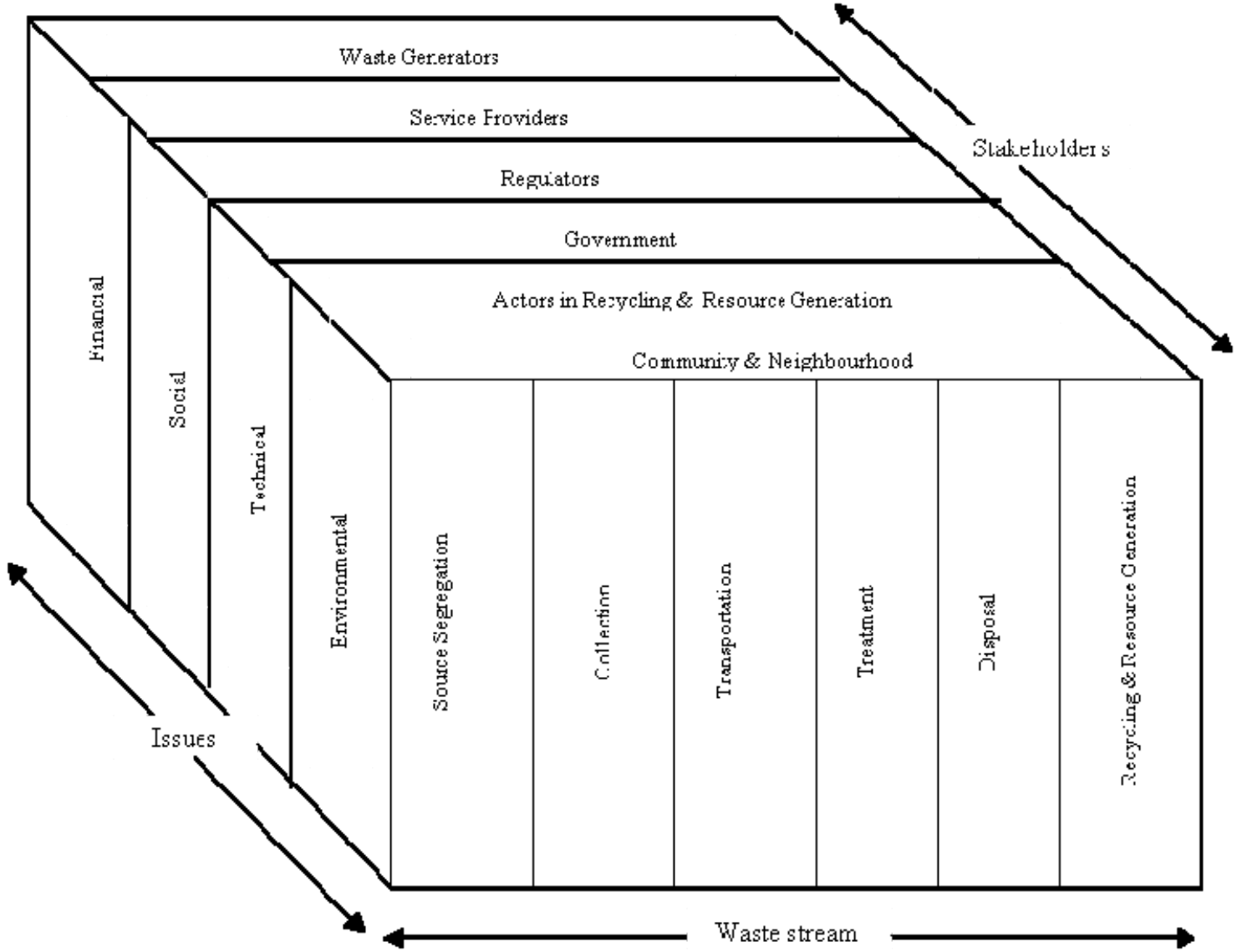
Issues and Concerns



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MSW (Segregation at Source)

	Waste Generators	Service Providers	Actors in Recycling
Financial	1. Who would bear the costs for buying bins and bags for source segregation 2. Who would get the benefit of earnings from the sale of source-separated recyclables 3. Current fee system and increase in the fee with respect to affordability	1. Who would bear the cost of providing extra equipment and service 2. Who should get the benefit from the sale of the source-separated recyclables	1. Will scavengers get benefit from more and clean quantity of recyclables (income and better job safety)
Social	1. Cleaning the recyclables and keeping the garbage for longer duration 2. Awareness raising for segregation of waste and proper primary disposal	1. Who will be responsible for safety & security of additional facilities 2. Sanitation workers working environment including health risks	1. Will any training be required 2. Waste pickers' working environment including health risks
Technical	1. Information about segregation of waste (different types of waste) 2. Availability of different types of waste collection bags 3. The size, shape and location of bins 4. Methods for reuse and recycling waste at source 5. Current problems in the waste collection and one or two possible suggestions for the improvements	1. Technical adaptability of bins to transfer the garbage in the collection vehicles 2. Training for sanitation workers 3. Knowledge about different type of wastes, especially hazardous waste 4. Segregation and recycling of waste after collection by sanitation workers	1. How to distinguish between PET and other plastics 2. Cleaning/treatment of the recyclables by waste pickers – availability of space, water, etc. 3. Waste pickers' collection point (bins, community waste disposal points, etc.) for waste pickers
Environmental	1. Odour, leakage and attracting birds, animals and flies		

MSW (Collection)

	Waste Generators	Service Providers	Actors in Recycling & Resource Generation
Financial	**1. Will there be any new collection charges**	**1.Will there be revised collection charges for the service providers**	**1. Whether scavengers will gain or loose in the new collection system?**
Social	**1. Can I allow scavengers to come to my house**		
Technical	**1. Frequency and timing of collection**	**1. What should be the collection frequency and timing based on the capacity of the department**	
Environmental	**1. Odour and flies if the waste has to stay longer at my disposal point**	**1. Will there be new health and environmental risks if the waste stays longer before it is collected**	

MSW (Transportation)

	Service Providers	Community
Financial	**1. Cost of transportation equipment**	**1. Will the community have to bear any additional charges**
Social		
Technical	**1. Operational aspects** **2. Maintenance capacity**	
Environmental		**1. Noise and congestion**

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MSW (Treatment)

	Service Providers	Actors in Recycling & Resource Generation	Community
Financial	**1. Costs for each treatment option** **2. Benefits (e.g. waste to energy)** **3. Who should pay the costs**	**1. Costs and benefits of recycling at treatment plants**	**1. Will we get a share in the benefit**
Social	**1. Can treatment facilities provide additional jobs**	**1. Working conditions at treatment facilities**	
Technical	**1. Operation & maintenance skills** **2. Compliance with the regulations**	**1. What are the market opportunities**	
Environmental	**1. Water pollution form treatment facilities**	**1. Is this regarded as natural environmental damaging**	**1. Treatment facilities should not be located in my backyard**

MSW (Disposal)

	Service Providers	Actors in Recycling & Resource Generation	Community
Financial	**1. Costs for different options**		
Social	**1. Will there be any public involvement against the facility** **2. What is the guarantee of recovering waste over long periods**		**1. Is the treatment self-viable over long-term**
Technical	**1. Operation & maintenance skills** **2. Compliance with the regulations**	**1. Scavenging at landfill** **2. Technology and capacity for producing energy from landfill gas**	**1. Is there any risk of accident**
Environmental	**1. Will there be future stringency in environmental law**		**1. Environmental impacts on ground water & air pollution, noise, odour, etc.**

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Recycling & Resource Generation

	Actors in Recycling & Resource Generation
Financial	**1. What will be change in the earnings for individuals and businesses involved in collection and selling of recycling** **2. Is there a ready market for resources generated from waste (e.g. compost, bio-gas)** **3. Where is information available on new technologies utilizing waste as an input**
Social	**1. Work safety of individuals involved into the recycling and composting** **2. Acceptability of goods (including compost and gas) produced from waste**
Technical	**1. Technology and capacity to convert waste into a resource**
Environmental	**1. Compliance with the environmental standards**

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ISW (Segregation at Source)

	Waste Generators
Financial	**1. Who will pay for the additional cost of segregation** **2. The cost for treatment and reuse is very high** **3. Is it expensive to treat special waste (hazardous waste, e-waste, etc.)**
Social	**1. Are there any special provisions to be made for operators**
Technical	**1. Compliance with the regulations** **2. Technology, capacity and practices to store and treat or reuse/recycle the waste within the industry or hospital** **3. Information about the type of waste for segregation at source** **4. Opinions about the difficulties to manage industrial/hospital waste and one or two suggestions for the improvements**
Environmental	**1. Any internal regulations, in addition to national and local regulations, regarding handling/managing special wastes at industry/hospital**

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ISW (Collection)

	Waste Generators	Service Providers
Financial		**1. Waste generators are currently unwilling to engage service providers for waste collection** **2. Are the collection charges, paid by the generators (industries/hospitals) enough to generate profits**
Social	**1.Service providers do not deploy trained personnel**	**1. Waste generators are not cooperative to facilitate the work of service providers**
Technical	**1. Frequency and timing of collection**	**1. Technology and capacity to collect the source-separated waste from industries** **2. Do service providers possess the licence to collect/mange special wastes**
Environmental	**1. Environmental protection measures by the service providers during collection**	**1. Meeting the environmental standards while collecting/managing special waste (hazardous, e-waste, etc.)**

ISW (Transportation)

	Service Providers	Waste Generators	Community
Financial	**1. Cost of transportation equipment**		
Social			
Technical	**1. Operational aspects** **2. Maintenance capacity**	**Service providers lack technical capacity and that may result into accidents and mismanagement**	
Environmental			**1. Noise, congestion and accidents**

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ISW (Treatment)

	Waste Generators	Service Providers	Community
Financial	**1. Charges**	**1. Costs for each treatment option** **2. Benefits (e.g. waste to energy)**	
Social			
Technical		**1. Operation & maintenance skills** **2. Compliance with the regulations**	
Environmental			**1. Environmental impacts**

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ISW (Treatment)

	Service Providers	Community
Financial	**1. Costs for each option**	
Social		
Technical	**1. Operation & maintenance capacity** **2. Compliance with the regulations**	
Environmental		**1. Environmental impacts on ground water & air pollution, noise, odour, etc.**

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Thank You…