

Inception Consultative meeting
on
Development of Educational
Material for Promoting
4R in Primary Education in
Bhutan

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Clean Bhutan
12 September 2019

An outlook

- National Strategy & Action Plan - Integrated Solid Waste Management, (MOWHS 2007 January)
- Curriculum Framework for Environmental Science Bhutan (Centre for Environmental Education, India 2010)
- A Review Report on the Quality of Education (18 Session of NC Nov 2016)
- Y-Generation - A Race to Return Home the Truth
- Jigme Losel Primary School Thimphu (2013 onwards)
- Present Scenario & Way Forward - Think out of the box

PRESENT SITUATION

42. Environmental Codes of Best Practice have been produced for Solid Waste Management stressing specifically **reduction of waste at the source**. Although data collected by the RSPN PPPUE Project show that there are lots of opportunities for reducing the pressure on the landfill site, not much is presently happening in waste reduction on the ground.
43. **Reusing** of certain items has been started in the country. Due to the ban on plastic bags, town people have started reusing bags and containers. However, plastic bags seem to be making their return. Empty cartons of printing paper are being reused by civil servants. Customers in the near future may have to pay a deposit for glass bottles in addition to the price of the content. On return of the bottles, they will get their deposit refunded and the bottles can be reused.
44. **Recycling** also has been introduced. There is the PET bottle crushing unit introduced by TCC and the Bhutan Beverages Company Ltd. in Thimphu which produces about 20 kg of shredded plastic per day. Plastic bottles are now sent also from Paro to the shredding unit in Thimphu, since its scale of operation is not cost covering yet. In 14 schools, cans, bottles and paper are collected in three differently colored containers. School children introduced separation of recyclable items to their homes and are taking those items to school. However, the materials collected at the schools are not regularly picked up by the scrap dealer/waste trader. At the border much of the packaging/cartons of imported goods are being resold to India.
45. **Home composting** is done by many households, not necessarily in the most effective way.
46. In many cases, there were complaints by **volunteers** who wanted to assist with removing solid wastes, but could not do so, since facilities/services were not in place.

MOE to revise EVS during 10FYP(2008-13)

Source National Strategy & Action Plan - Integrated Solid Waste Management, MOWHS 2007 January

Ecological Sustainability

Thanks to Educating for GNH and the Green School initiatives, there exists a strong sense of care for the environment in our schools. Nonetheless, with growing economic prosperity and a consumerist culture come threats to ecology; the rising problem of non-biodegradable waste being one such example. The mass cleaning campaigns we do are good for creating some public awareness but they can hardly match the ever-present ads on mass media continuously urging us to consume and produce more waste. Alongside creating a clean and green environment, the seeds of sustainable habits must be planted in schools through ecological literacy and mindful consumption

Social Justice

Reference: Jamtsho. S., (2018) Education in Bhutan: Quality and Sustainability, DrukJournal.bt 2018, Thimphu

9. In the special case of Bhutan, in order to protect the tourist industry, priority in the motivation programs is to be given to the eradication of **littering, road- and river dumping and controlling the dog population** as immediate measures. The long-term priority goes to waste reduction.

Source National Strategy & Action Plan - Integrated Solid Waste Management, MOWHS 2007 January

Figure 2: General education curriculum PP-12

Area	Subjects	Primary Education						Secondary Education				HSS		
		PP	I	II	III	IV	V	LSS		MSS		XI	XII	
								VII	VIII	IX	X			
Language	Dzongkha													
	Rigzhung													
	English													
	English Literature													
Mathematics	Mathematics													
	Business Mathematics													
	Pure Mathematics													
Science and Technology	Science													
	Physics													
	Chemistry													
	Biology													
	Computer Applications													
	Computer Science													
	Social Studies													
Human Society and Environment	Environmental Studies													
	History													
	Geography													
	Commercial Studies													
	Commerce													
	Accounting													
	Economics													
Creative and Practical Arts	Visual Arts and Craft													
	Music													
Health, Physical Education and Personal Development	Health and Population Studies													
	Games and Sports													
	Moral and Value Education													
	Scouts													
Socially Useful and Productive Work	Agriculture and Social Forestry													
	SUPW													
	Basic Vocational Skills													

Source: Annual Education Statistics 2015, p.9

REC started EvSc. 2017-18 funded by BTF

A Curriculum Framework of Environmental Science Bhutan

Name	Agency
Participants	
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2. Mrs.Phuntsho Wangmo	Khangkhu MSS
3. Mr.Tshering Dorji	Motithang HSS
4. Mrs.Rupashree Gupta	Motithang HSS
5. Ms.Chhimi Wangmo	Shaba MSS
6. Mrs.Phuntsho Choden	Shaba MSS
7. Mr.Kelzang Tenzin	Shari HSS
8. Mr.Jamyang Tenzin	Shari HSS
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22. Mr Kinley Namgyel	Chief, Sec Curriculum Division, DCRD
Facilitators	
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24. Mr Pramod	Cpnsultant, CEE, India
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A Curriculum Framework of Environmental Science Bhutan



explore and experience what is around them. Effective environmental education should empower students with skills to address environmental issues, with a sense of personal and civic responsibility.

- v. **Pursuit of GNH:** The GNH, which is the country's developmental philosophy accords importance to the environment. Therefore, environmental sciences while deliberating on the elements of the environment need to incorporate the principles of GNH in the delivery process of the content.



Fig. 1. Important criteria influencing the environmental Science curriculum



Y-Generation

Source: Kuensel 6 June 2019

► **A race to bring home the truth:** On the World Environment Day, the marathoners do the littering

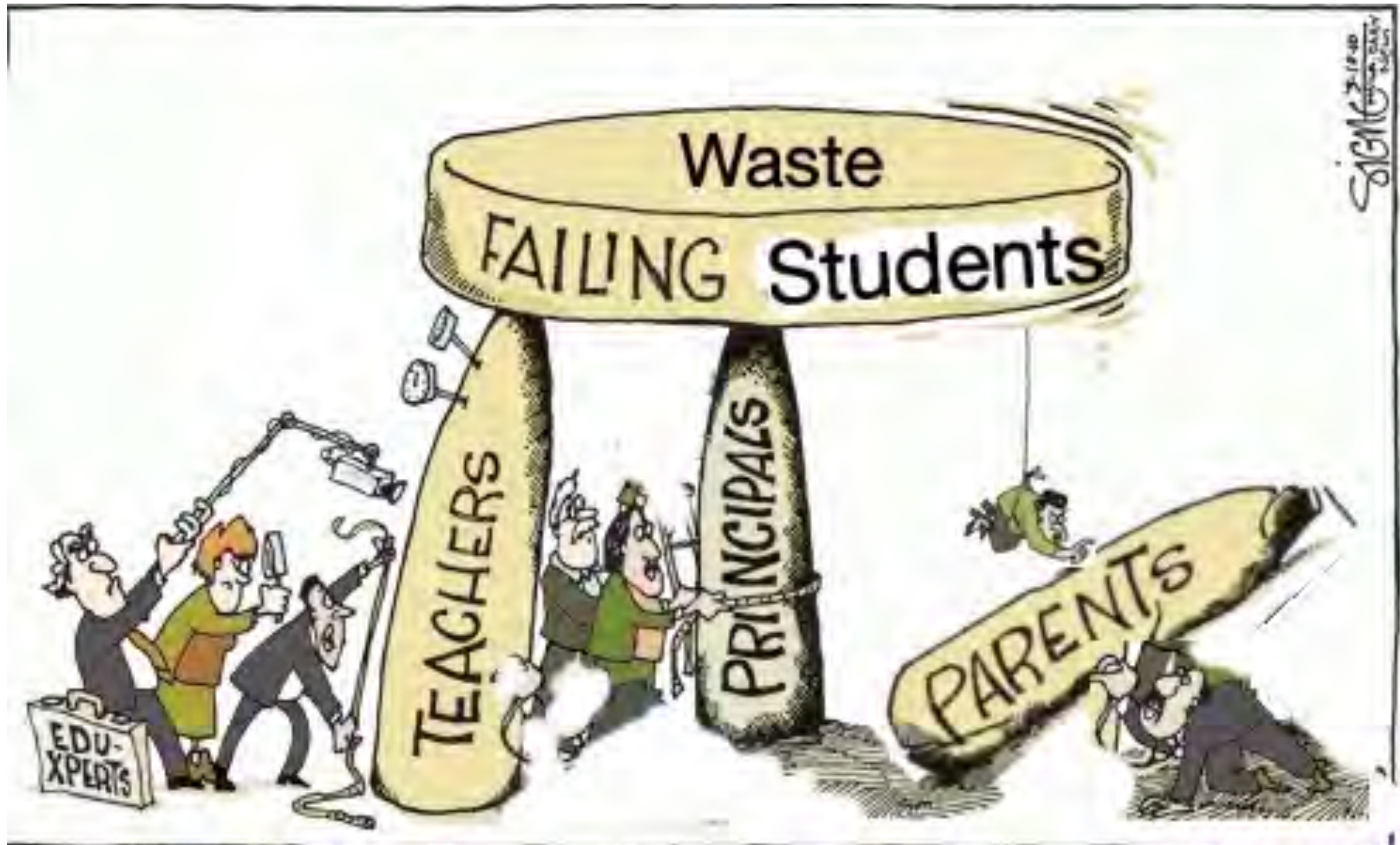
Jigme Losel Primary School in Thimphu is one of the schools in the country that emphasizes on welfare of disadvantaged communities & environmental conversation.



From 2013 to 2017, the school collected 29,937kg tins and cans, 47,405kg papers and 41,415kg of pet bottles, which made up 118.757 metric tonnes of non-degradable waste.

The school in the last five years won 10 awards for initiating programmes to protect environment and school feeding programme. The awards were from the National Environment Commission, the Ministry of Agriculture, the Ministry of Education, UNICEF, UNESCO, among others.

Present Scenario





Back to Square One





The following are the key achievements of RSPN in waste management:

- Introduced the first compactor trucks in Thimphu (6) and Phuntsholing (3) municipalities in 2005
- Initiated waste segregation in schools in Thimphu in 2004
- Initiated the "Clean Bhutan Project" and installed PET bottle shredding machines in Thimphu, Mongar and Sarpang in 2010
- Introduced green transport initiatives in Thimphu in 2012

Despite rigorous efforts, waste management remains a challenge. Lack of institutional coordination, limited resources, and civic responsibilities are some of the prominent issues of waste management.



At the launch of Green Transport initiatives

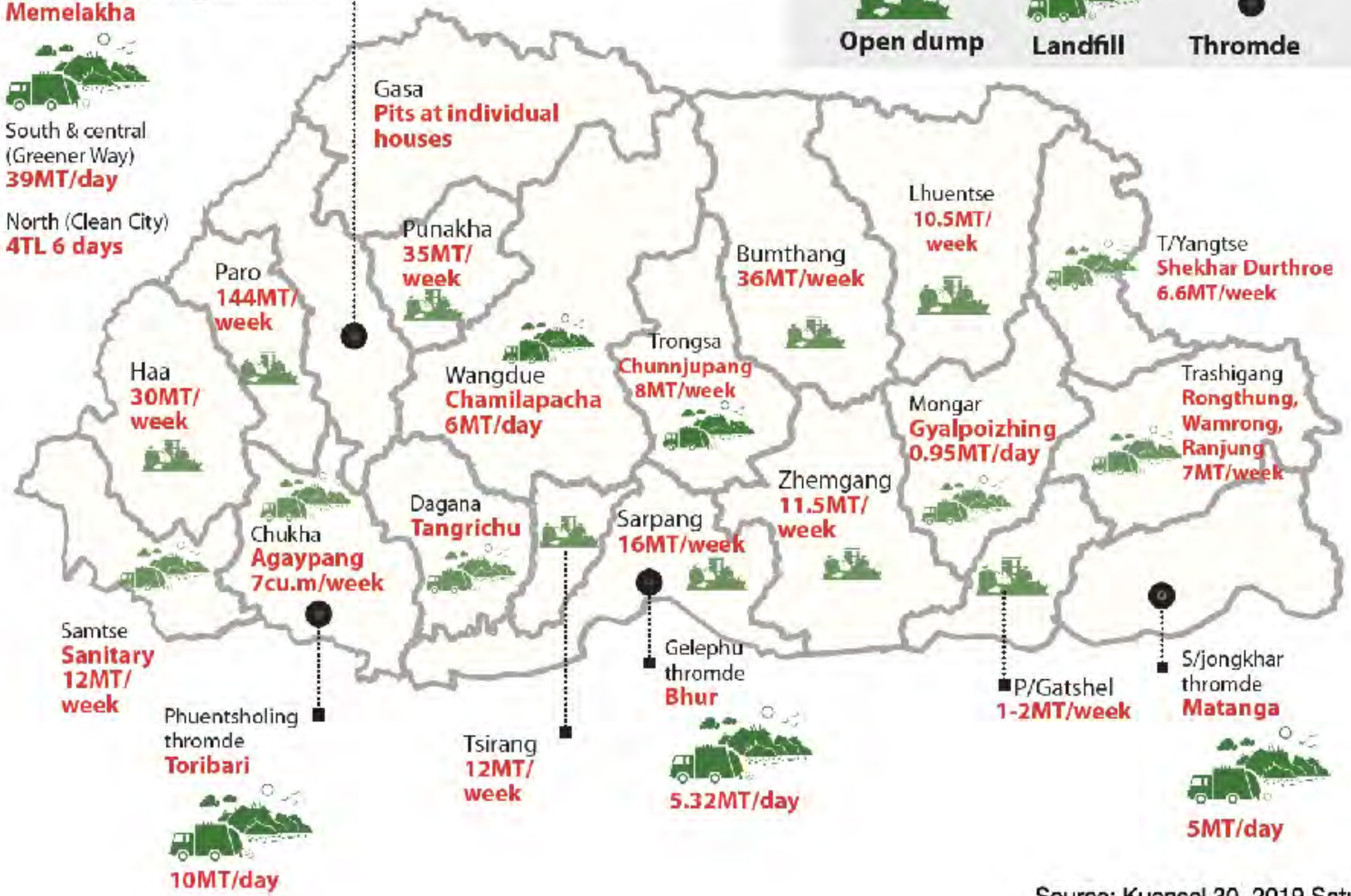


Thimphu thromde
Memelakha



South & central
(Greener Way)
39MT/day

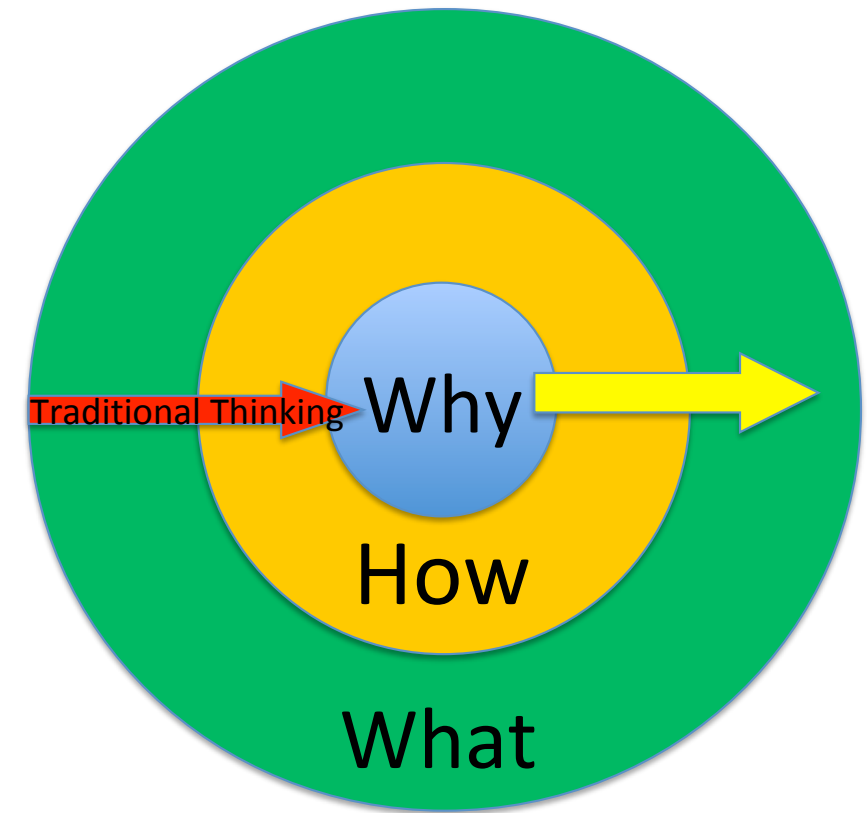
North (Clean City)
4TL 6 days



Source: Kuensel 30, 2019 Saturday

Waste issue continue to grow?

Way Forward

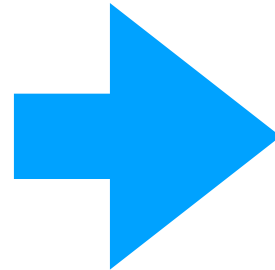


Illegal Dumping of Municipal Waste

- Illegal dumping was also one of the sources of scattered waste.
- Officers made posters against illegal dumping and conducted patrolling.
- **Hundreds of Community based organizations also joined to clean up waste.**



Pictures in 1959 in Tokyo. Source: 東京都清掃局『清掃事業のあゆみ』(Tokyo Metropolitan Government History of Cleaning up Waste, 1977)



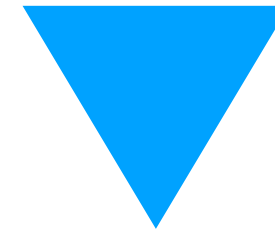
The movement to remove fixed waste bins on the road.



Asahi Shimbun, August 31, 1962

Removal of fixed waste bins

- Tokyo government started to use plastic trash bins for wastes and collect wastes at fixed time from 1961.
- Eliminating scattered waste was one of the priorities of the governments before Tokyo Olympic in 1964.
- **Half million waste bins were removed in Tokyo.**



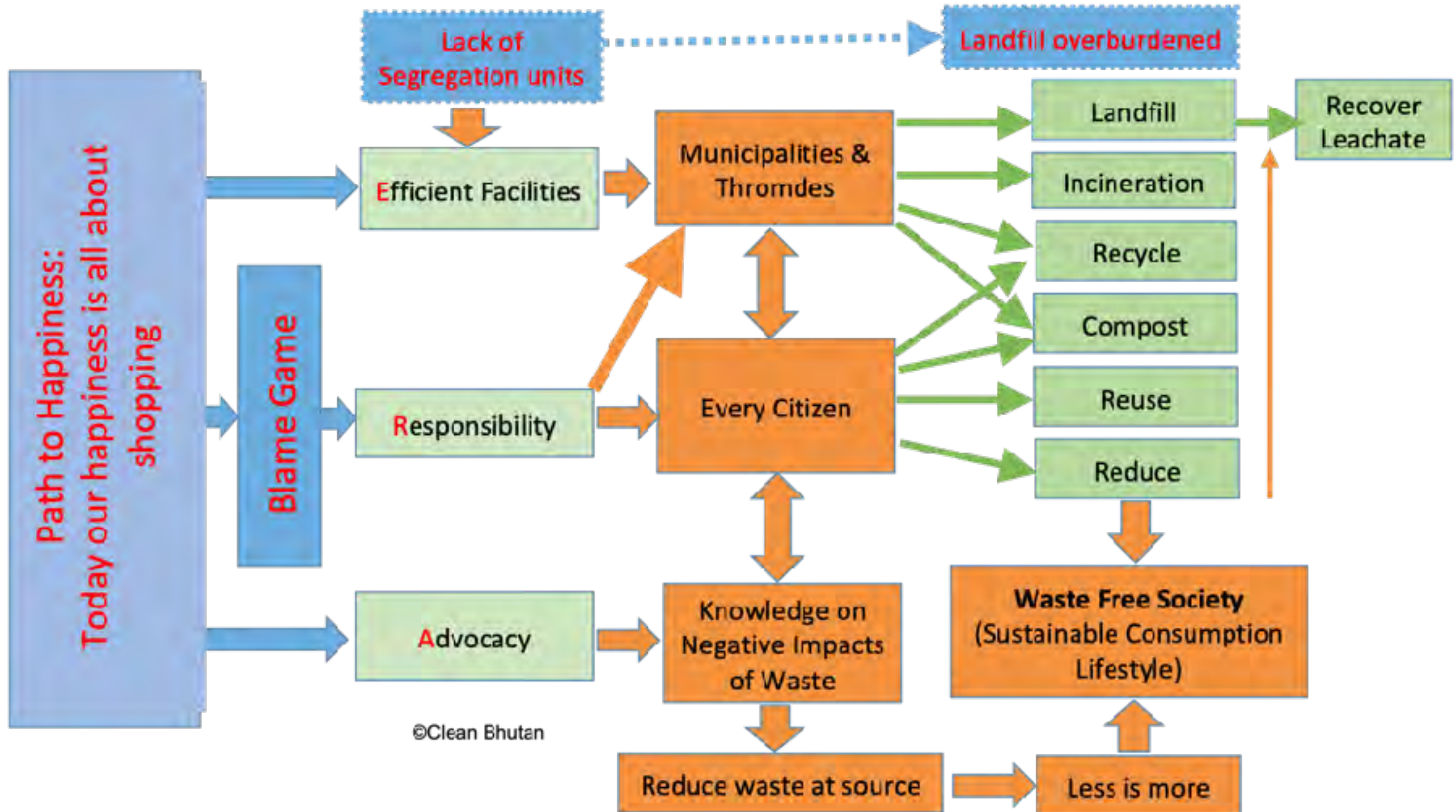
New collection system before Tokyo Olympic

- Citizens should put plastic trash bins at collection station in fixed time range.
- Working condition for collector was also improved.
- To change the habits of residents, the government conducted intensive campaign.



Pictures in 1964 in Tokyo. Source: 東京都清掃局『清掃事業のあゆみ』1977. (Tokyo Metropolitan Government, History of Cleaning up Waste, 1977)

Begin with new ERA



Recycling is a vicious cycle

Upcycle

Less is More

Waste is not the problem

Clean your brains and not the drains

**Landfill can contaminate drinking water
& increase health risks (WHO 2015)**

Responsibility - Service & Self



Tashi Delek to a brighter generation