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Resilient nations.



Reducing UPOPs and Mercury Releases from The Health Sector in Africa

Module 51

National Healthcare Waste Management Planning II - Financing -

UNDP

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Europe and the CIS**

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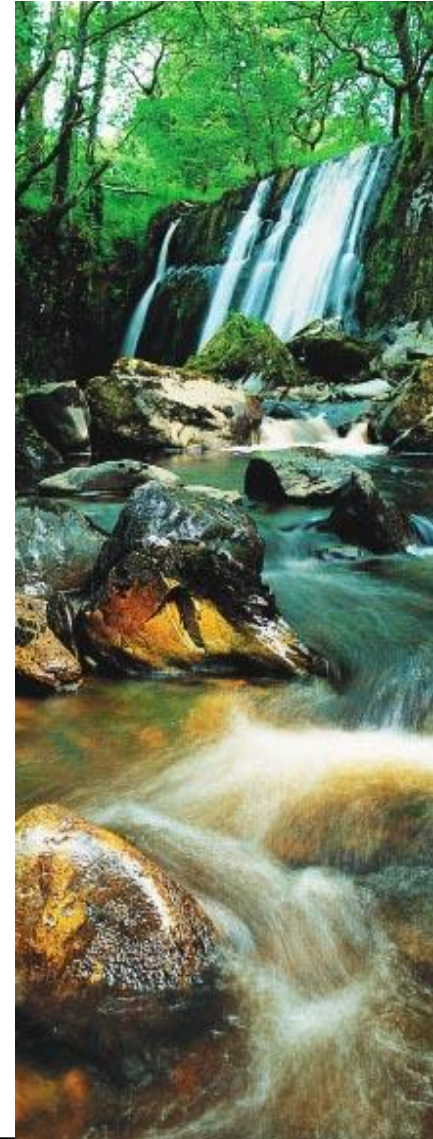


GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET



SYLLABUS

- ▶ Introduction
- ▶ Rational for investing in HCWM
- ▶ The costs of healthcare waste
- ▶ Financing the HCW system
- ▶ Calculation and Reporting Scheme
- ▶ 'Cost per kilo'
- ▶ Summary





Introduction

- ▶ Allocating insufficient financial resources to manage HCW properly has an even greater financial cost on the medium-long run in terms of morbidity and mortality as well as environmental damage, that will, in the end, impact negatively on peoples' health.
- ▶ The reasons to invest in HCWM are ethical, legal and financial.

(by WHO)



Rational for investing in HCWM

- ▶ On an **ethical** level, knowing that over 23 million infections of hepatitis B, C and HIV occur yearly due to the use of contaminated syringes, managing and disposing infectious HCW and sharps in particular in a safe and environmentally-friendly manner becomes a moral obligation.



Rationale for investing in HCWM

- ▶ On a **legal** level, International agreements and principles, in particular the “Polluter Pays Principle” provide clear incentives for sound HCWM. At national level, Constitutions, environmental and health laws and regulations normally provide the necessary framework that obliges both public and private health actors to manage HCW in a safe way. Investing in HCWM is therefore a legal obligation.



Rational for investing in HCWM

- ▶ On a **financial** level, the consequential costs to rectify the effects of poor HCWM are also often not recognized. As with most pollution/ public health related issues, “preventive” measures usually cost less than “curative” expenditures...
- ▶ Financial aspects related to HCWM should be analysed not only in terms of cost-effectiveness but also cost-benefits: investing in HCWM is an investment for improved public health.



What are environmental costs?

Definition:

► Environmental costs are impacts, both monetary and non-monetary incurred by a firm or organization resulting from activities affecting environmental quality. These costs include conventional costs such as buildings, equipment, materials, labor and utilities, as well as potentially hidden and less tangible costs.

(Graff, R.G., et al.: Snapshots of Environmental cost accounting)





The costs of healthcare waste

“Typical” conventional costs for healthcare waste:

- ▶ Disposal costs
- ▶ Treatment costs
- ▶ Waste collection items
- ▶ Waste segregation equipment
- ▶ Cleaning up spill kits
- ▶ PPE – Personal Protection Equipment
- ▶ Etc.





The “hidden” costs



The real cost of waste can be like an iceberg with only a small part to see. It can be hidden:

- ▶ Image of the hospital (Quality)
- ▶ Lost of material and energy
- ▶ Liability of the hospitals
- ▶ Lost of labor time
- ▶ Regulatory compliance
- ▶ Etc.





Hidden "Overhead" environmental costs

Environmental costs in the healthcare sector are mostly hidden in the general overhead cost of a hospital:

Health Service producing Cost Statement			
Variable Costs			
Materials			\$2.27/lb.
Intermediates	\$0.87/lb.	\$0.41/lb.	\$0.96/lb.
Additives	\$11.32/lb.	\$10.31/lb.	\$9.96/lb.
Utilities	\$0.04/kwh		\$0.07/kwh
Direct Labour	\$27.40/h		\$31.43/h
Packaging	\$0.22/p		\$0.57/p
Wastewater Treatment			
Fixed Costs			
Supervisor			
Fixed labour			
Depreciation			
Divisional overhead			
General services & administration			
Total Variable Cost			
Total Fixed Cost			
Total Service Cost			
Total Cost			

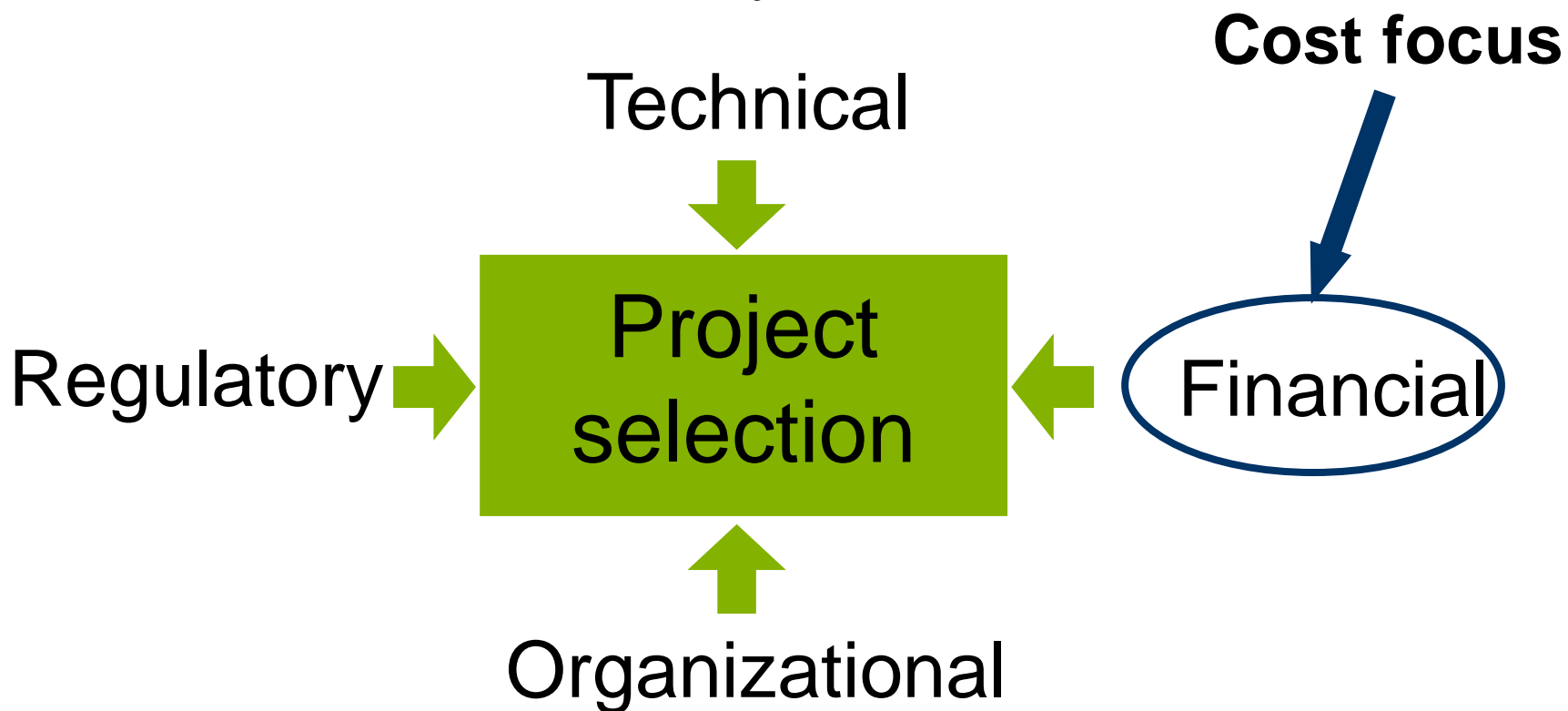
Fixed costs
 Supervisor
 Fixed labour
 Depreciation
Divisional overhead
 General services & administration

- legal expenses
- environmentally driven R&D
- permitting time and fees
- environmental training



The target of a clear cost structure

Clearing of decision making factors: To identify where, how and when to improve – means where to invest time and money!





Reporting System – Waste Quantities

Jun-08

HEALTHCARE WASTE QUANTITIES

CTP: _____

Date: _____

DATE	DZ1	DZ2	DZ3	DZ4	DZ5	DZ6	Hospital X	TOTAL (kg)
02/06/2008								
03/06/2008								
04/06/2008								
05/06/2008								
06/06/2008								
TOTAL								week
30/06/2008								

Total HCW for the month of

Jun-08





HCWM calculation scheme

Capital costs - annual projection					
#	unit	price per unit	quantity	life span	annual [RSD]
1	HCW bin, plastic		0	2	0
2	protective equipment		0	1	0
3	wheelie bin		0	2	0
4	HCW working area		0	10	0
5	autoclave	4,800,000	0	10	0
6	shredder	1,200,000	0	10	0
7	transport trolleys		0	2	0
8	HCW container		0	4	0
9	long-term training for waste management staff		0	2	0
10	vehicle	1,000,000	0	7	0
total capital CTP/LTP cost					0



HCWM calculation scheme II

Monthly running costs					
#	unit	price per unit	quantity	info	monthly [RSD]
1	sharp box, 3l			<i>total per area</i>	0
2	sharp box, 1l			<i>total per area</i>	0
3	yellow bags			<i>total per area</i>	0
4	black bags			<i>total per area</i>	0
5	system electricity costs				
6	system water costs				
7	fuel costs				0
8	vehicle registration				
9	HCWM Salary				
10	Operator salty				
11	Assistant salary				
11	drivers salary				
12	Monitoring and administration			<i>≈ 1% of total</i>	
13	cleaning and disinfectant products				
14	system maintenance and spare parts				
15	depreciation*			<i>monthly</i>	0
total monthly running costs of CTP/LTP					0



Financial monitoring

- ▶ Ensure one will have the required funds to maintain the system (one can't budget something who's cost is unknown);
- ▶ Optimize the current system in terms of cost-effectiveness by being able to compare current expenditures with those linked to an eventual other technical/ management system.