



Rethinking Value - Resources for Planetary Wellbeing

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*#205. An integrated methodology
to assess environmental, social
and economic impacts in textiles*

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Context



**For products like apparel
we want increased utility
& reduced consumption**

Theoretical premise

Double utility
 $AW_F = 2 \times AW_C$

$\frac{1}{2}$ consumption
 $\frac{1}{2}$ production
 $\sim \frac{1}{2}$ impact



$$WW = PW - AW = 0$$

WW = Wasted Wears

PW = Potential Wears

AW_F = Actual Wears (Future)

AW_C = Actual Wears (Current)

Case study: Part 1 (Current)

A common story

- The story of a good quality casual wear item priced at INR 2k in brand stores across India purchased by UMC adult living in **Chandigarh**
- Product is made for casual wear and can withstand 30 washes=>can deliver 30 wears over its life, retained by owner for a year
- After an year it is down-cycled to serve as a household wiping cloth for a month and thereafter garbaged
- There is a door-to-door collection system for household garbage run by a local NGO which sends low skill workers in motorized vehicles to collect garbage and dispose it off at a government permitted dumping site



Case study: Part 2 (Future)

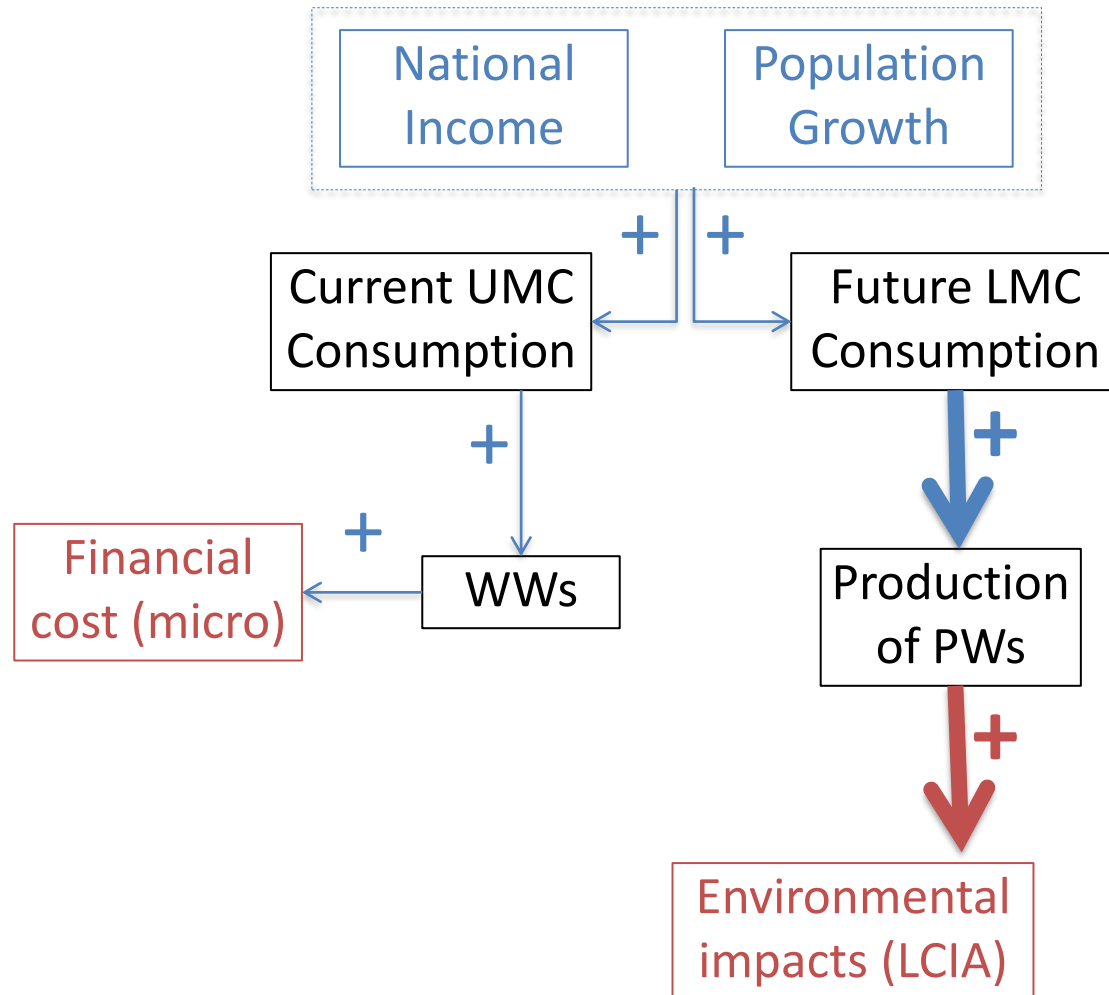
Enter the 're-use' mechanism

- Purchaser decides to de-clutter & give up casuals that are hardly worn even though these are in wearable condition
- Gives away 30 pieces over the course of the year, pieces that still hold PWs but no chance of being worn in the coming year
- Hawker collecting the used casuals sells them within the city @5% of original price to LMC user & moves to next round of purchase from another UMC owner holding WWs
- 80% of the goods bought by the hawker are made within Chandigarh and the rest come from outside



Theoretical premise visualization

Current state

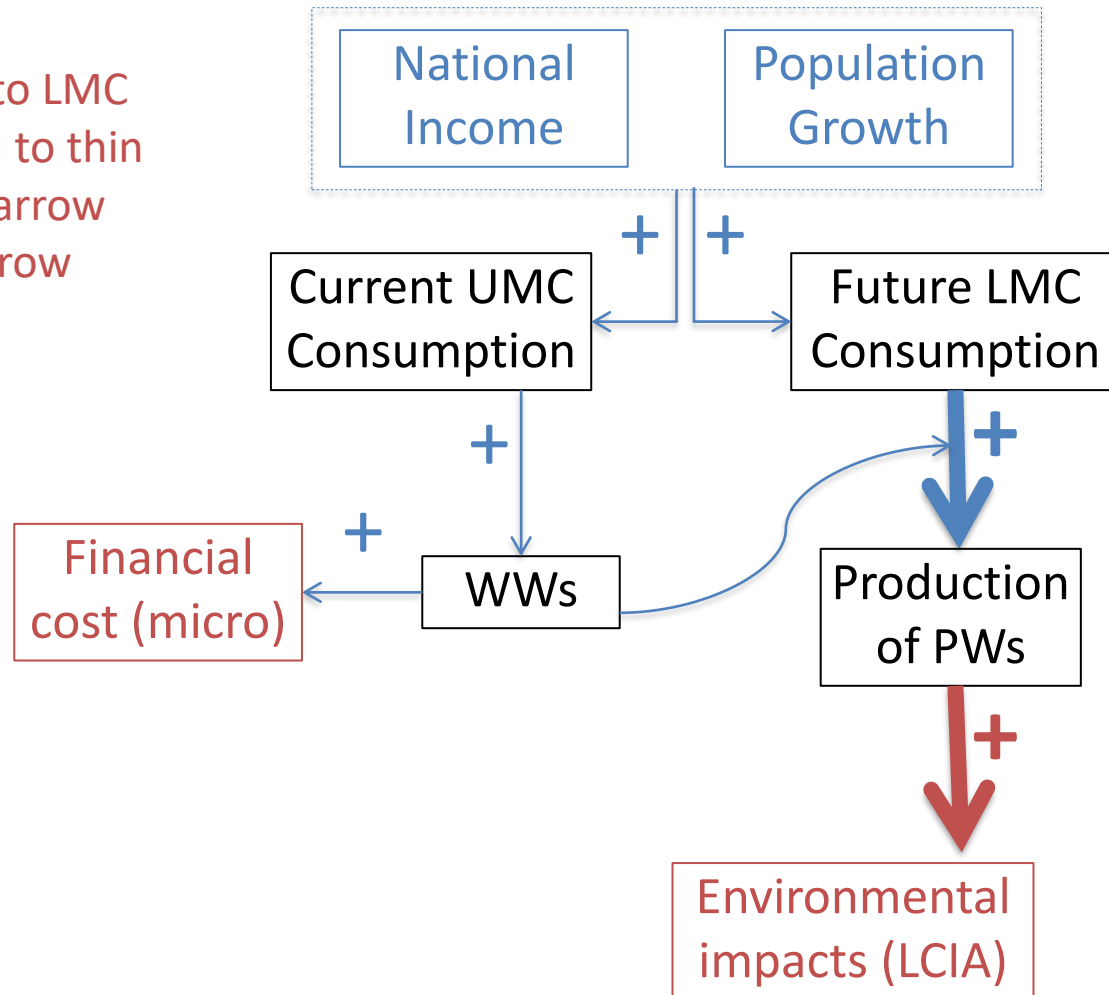


+ sign denotes
positive relationship

Theoretical premise visualization

Future intended state

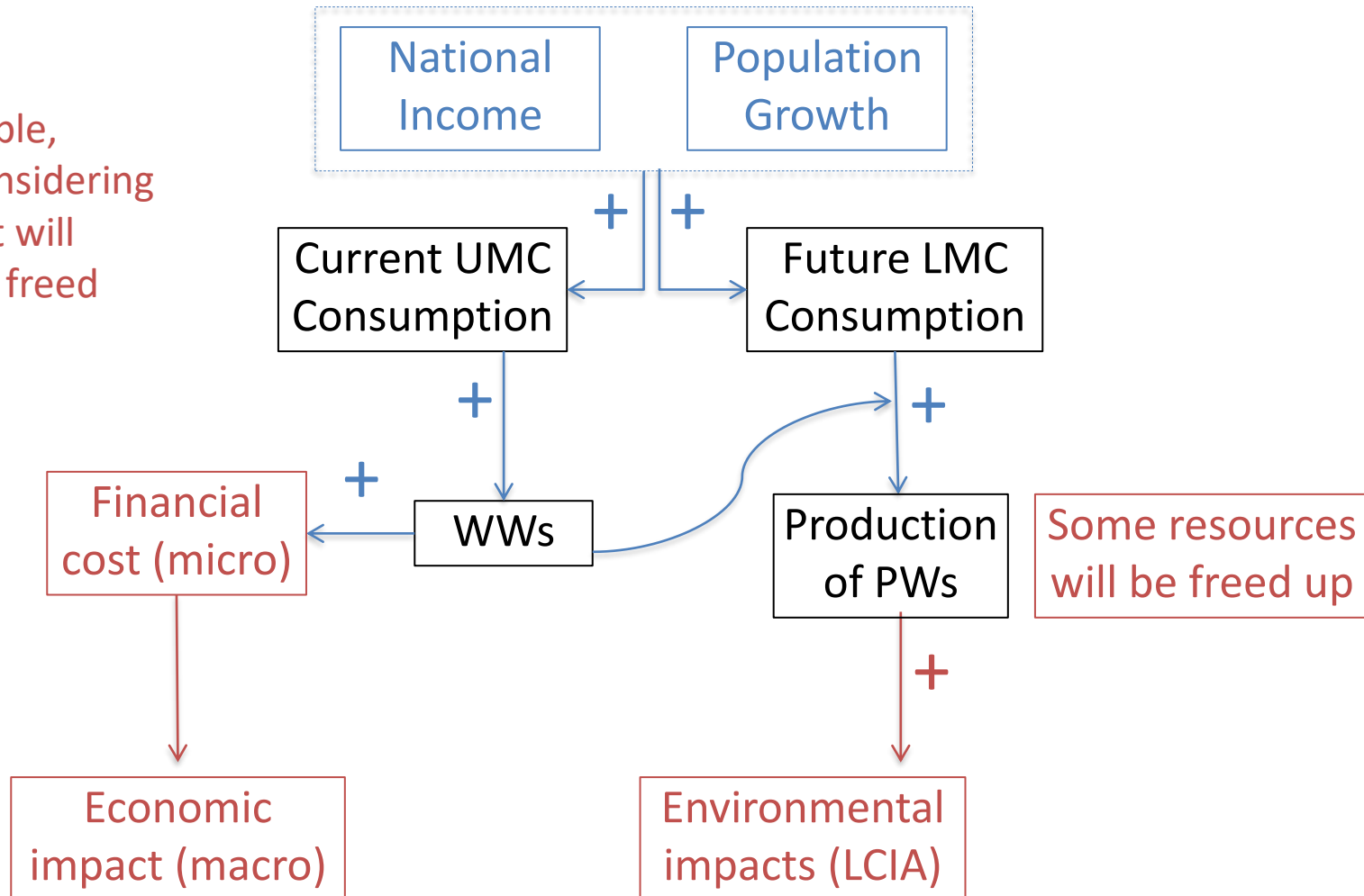
Diverting WWs to LMC
AWs is expected to thin
down thick red arrow
via thick blue arrow



Theoretical premise visualization

Future intended state will have consequences for the economy

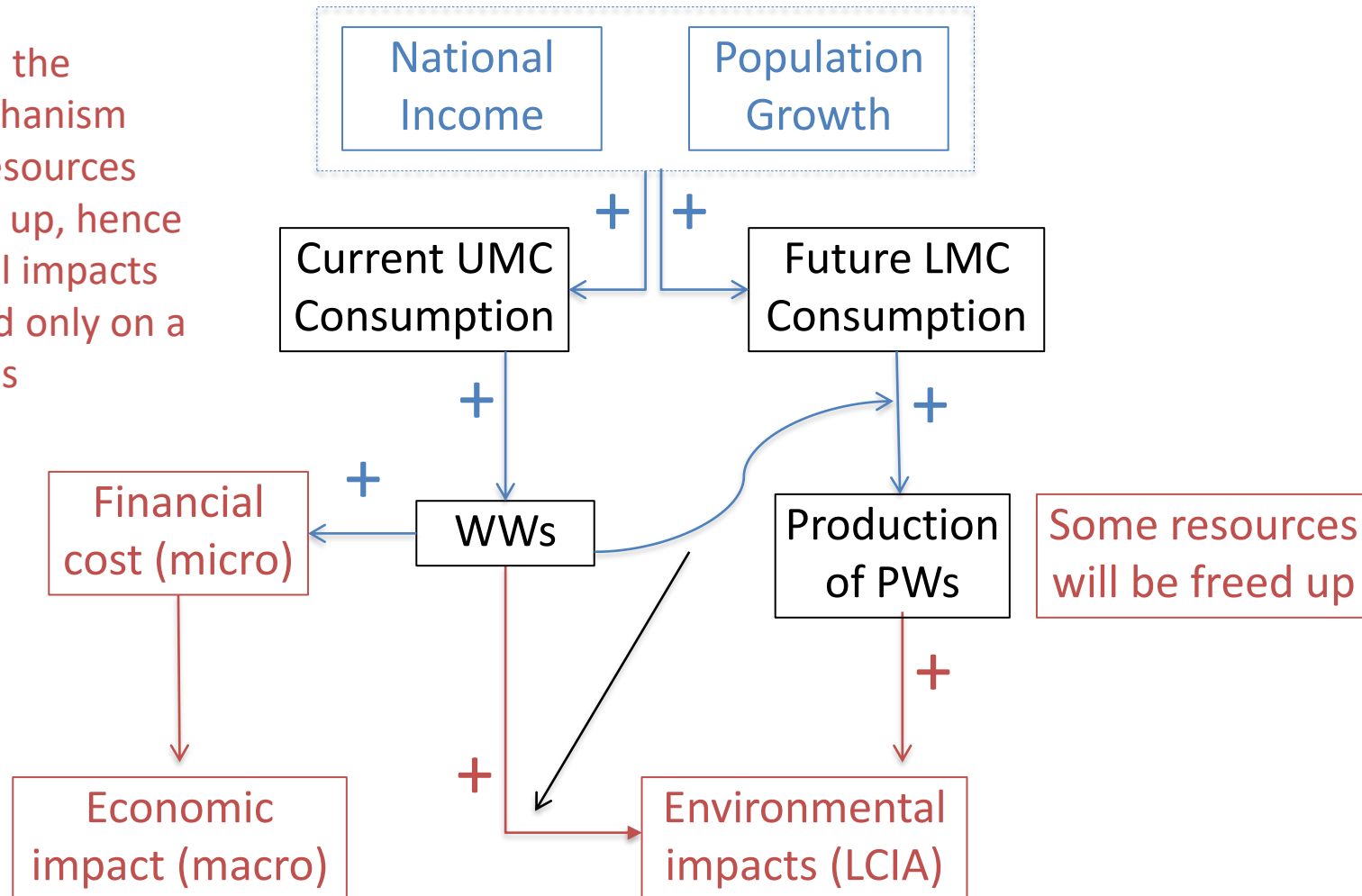
To keep it simple,
we are not considering
resources that will
potentially be freed



Theoretical premise visualization

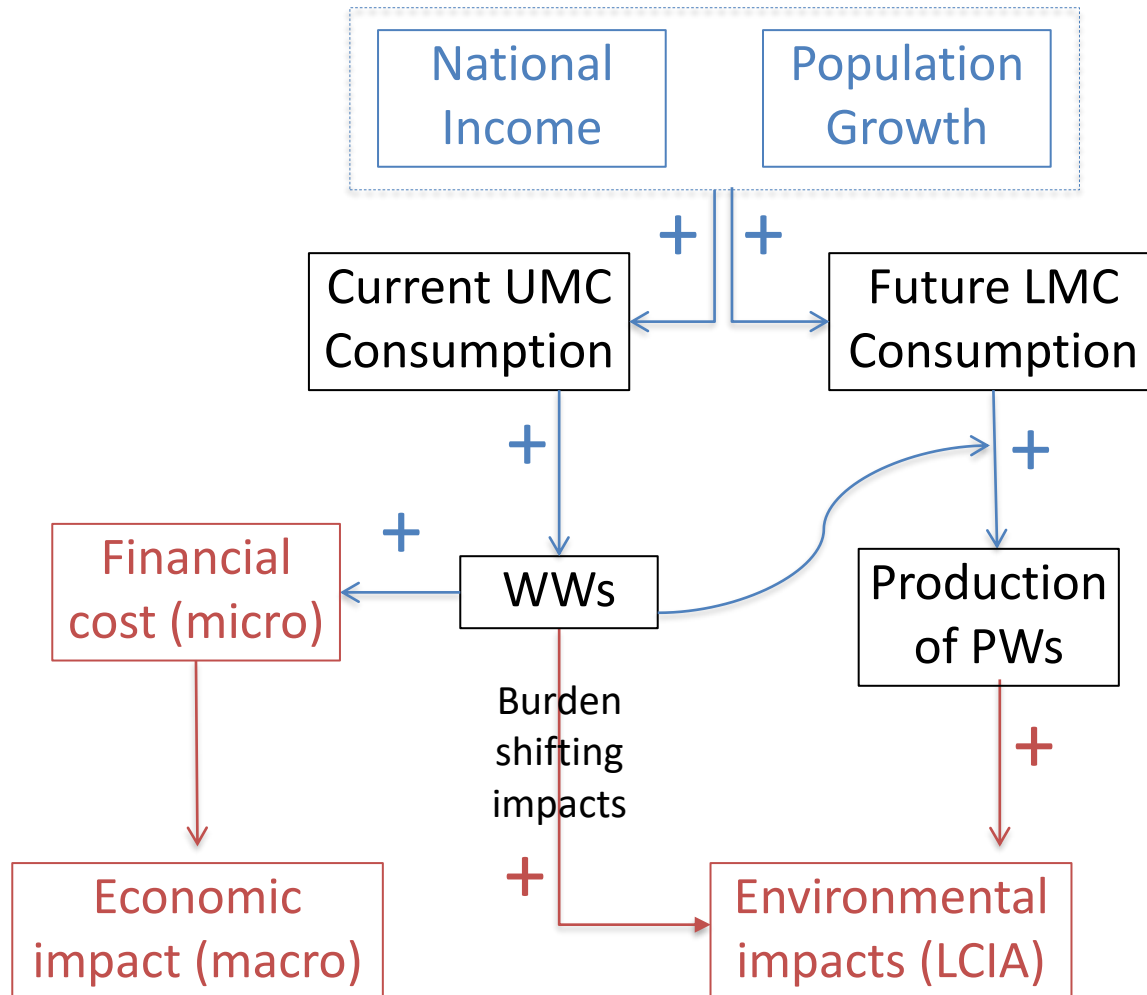
Future intended state will also have some environmental costs

Depending on the diversion mechanism some other resources could be used up, hence environmental impacts are considered only on a 'net new' basis



Theoretical premise visualization

There will be some burden shifting

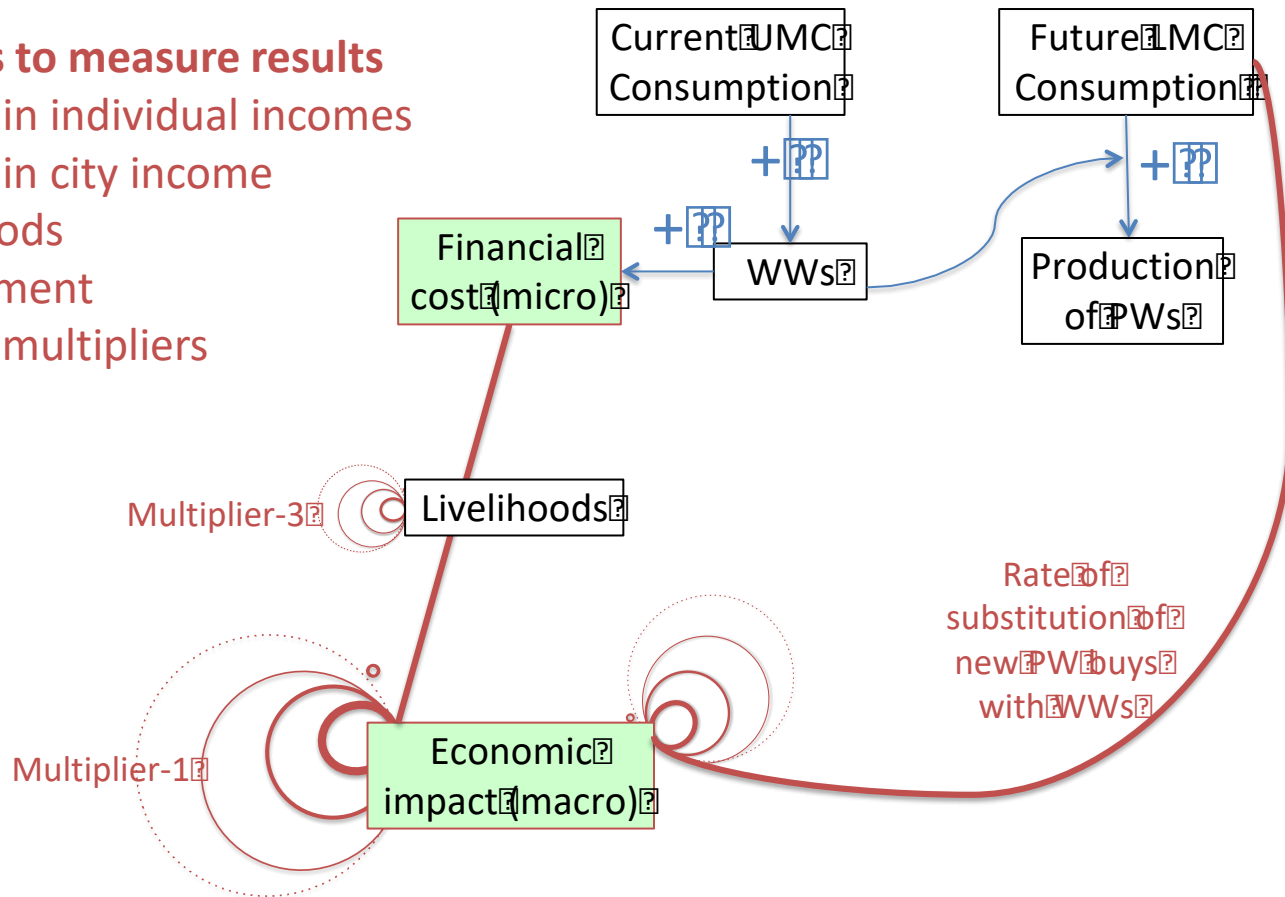


Modeling of economic impacts

And also economic multipliers

Indicators to measure results

- Change in individual incomes
- Change in city income
- Livelihoods
- Employment
- Income multipliers

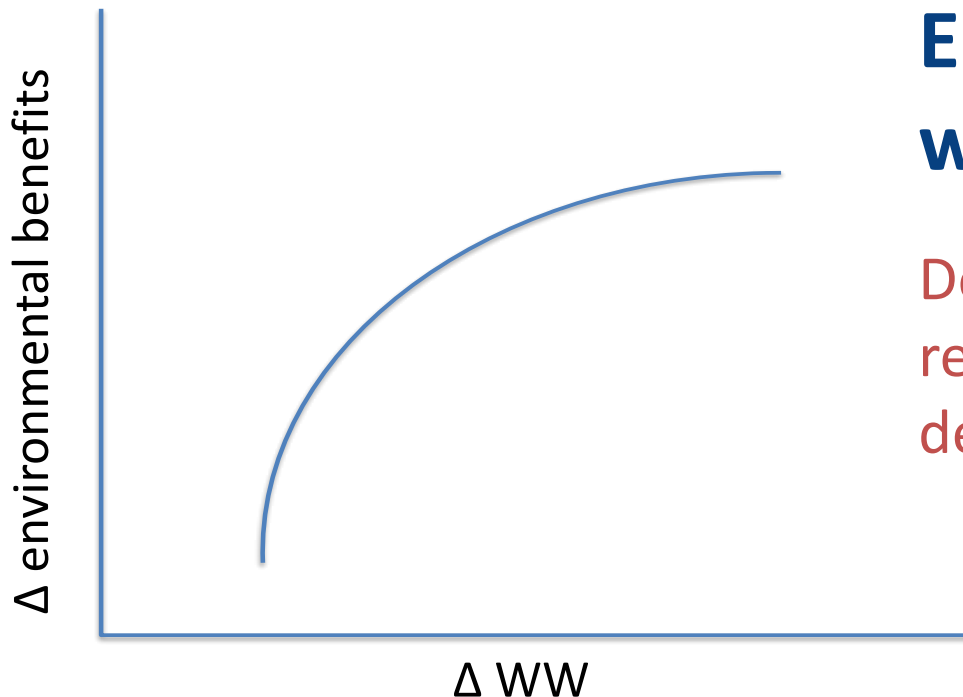


Will the strategy deliver its intended purpose?

LCA results will show before-after scenarios for net environmental impacts after diversion of WWs

Environmental analysis

Done first to screen if action is worthwhile & set targets to address the thick red arrow problem we started out with



Environmental LCAs will help set targets

Determine scientifically how far reducing stocks of unused items delivers environmental benefit

Case study data

The story in numbers

WW Case Study, Chandigarh 2022		
Product characteristics		
Price	USD	20
Potential life in number of Ws	Number	30
Has a home in purchaser's closet for	Years	1
Purchaser profile		
Annual income	INR	> 10 mn
Spend on casuals as fraction of income	%	10
City demographics		
City population	Number	11.90 mn
Wealthy households in Chandigarh	%	79.4
Average members per HH (wealthy)	Number	5
Average members per HH (others)	Number	10

As per income tax floor slabs

To cross check spend on casuals

1

2

1 <https://www.macrotrends.net/cities/21212/chandigarh/population#:~:text=The%20current%20metro%20area%20population,a%201.68%25%20increase%20from%202019.>

2 <https://www.outlookindia.com/business/chandigarh-delhi-punjab-have-highest-number-of-rich-people-half-of-rural-india-poorest-news-219370>

Case study data

Monetary value of WWs lying in closets of the wealthy

	Scene 1	Scene 2	Scene 3	Scene 4
Pieces bought per annum per person	50	40	30	20
PWs purchased per year per person (30X)	1,500	1200	900	600
AWs per year @ average 2.2 per day	800	800	800	800
WWs per year per person lying in closets	700	400	100	-
Total WWs in the city per year (bn)	Per person WWs X Number of wealthy adults in city			
	5.6	3.2	0.8	-
City's purchase price of WW (USD bn)	City WWs X Depreciated cost of WWs (5% of original price)			
	3.7	2.1	0.5	-

Assumptions made to estimate impacts under different scenarios

Case study data

Save city residents' spend from fuelling other city economies

	Scene 1	Scene 2	Scene 3	Scene 4
City's purchase price of WW (USD bn)	3.7	2.1	0.5	-
City's opportunity cost of WW (USD bn)	At Depreciated cost of WWs (10% of original price)			
	0.37	0.21	0.05	-
Impact of city's avoided purchase with multiplier effect (USD bn)	Assuming 20% of spend is retained within city			
	0.46	0.26	0.06	-

Increase in city's income attributed to money saved by substituting pre-loved casualties for new ones

Assumptions: New casualties are manufactured entirely outside the city; and (2) City residents spend 20% of these savings on goods and services from within the city

