



WC CUBICLE

IDPS 2013



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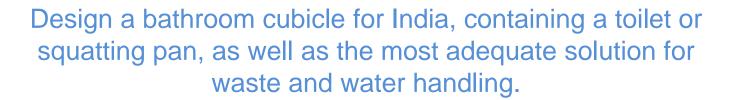
Research



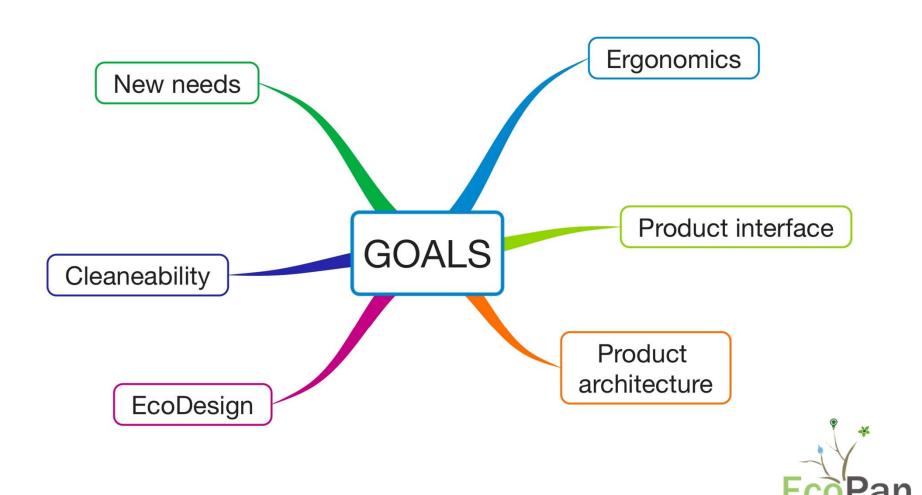












The Cubicle

25 persons/day25 persons/day

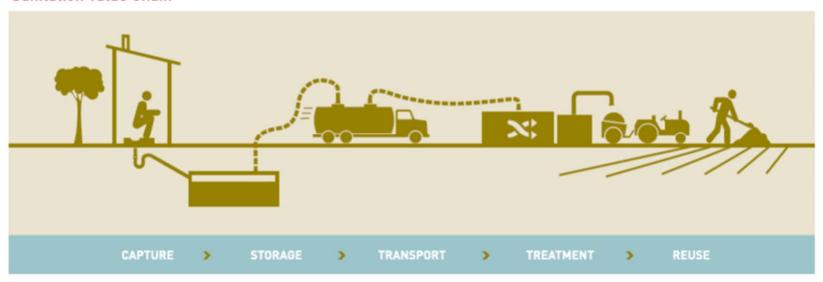






Process

Sanitation Value Chain







Sub-products Biogas and fertilizer Fertilizer



Bio-digester Fixed-Dome plant

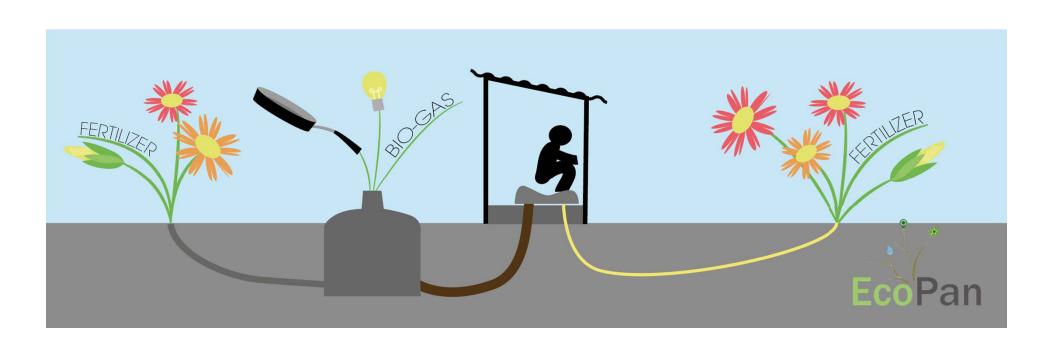
Urine contains most (94%) of the NPK nutrients excreted by the human body

Biogás: for cooking or lighting

Excellent fertilizer for frayed lands of

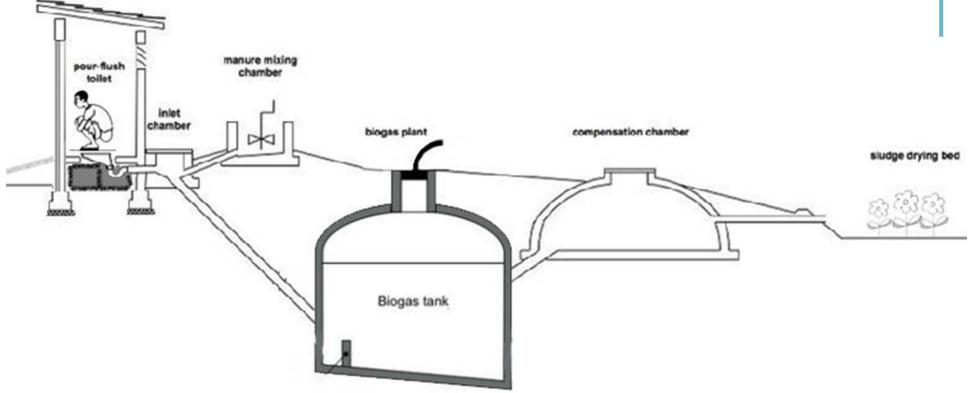
India.

Uses a natural system Sterile



Fixed Dome Type biogas plant





	Average daily	Daily	Plant size
	feedstock (kg)	water (L)	(m3)
2 Wc Cubicles	32	32	4
3 Wc Cubicles	48	48	6



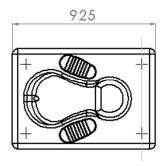
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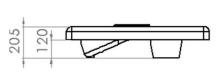
luci Luciana Pedrosa;

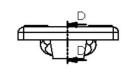
Squatting Pan

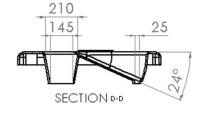




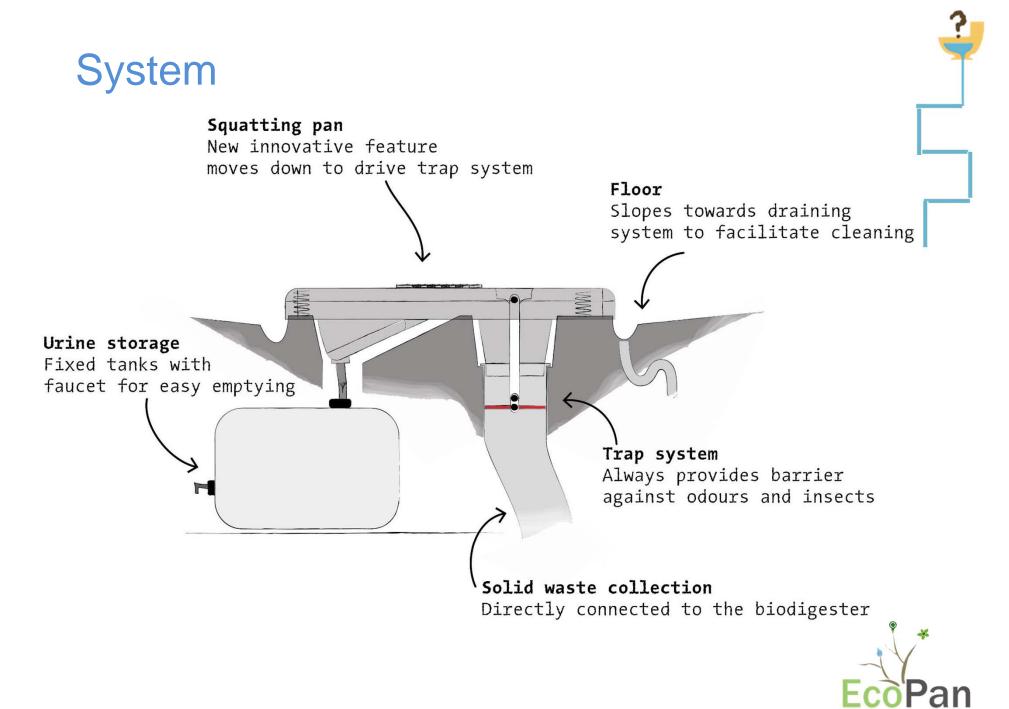




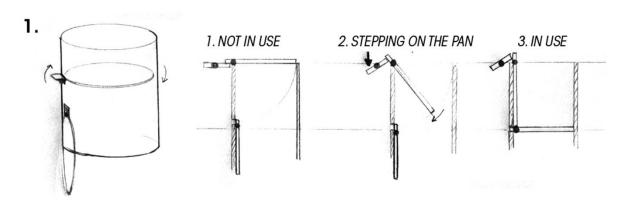


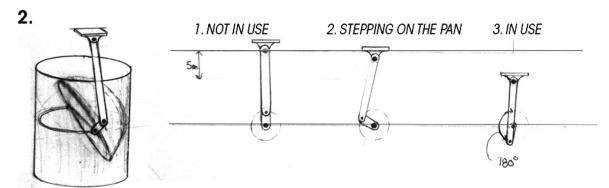




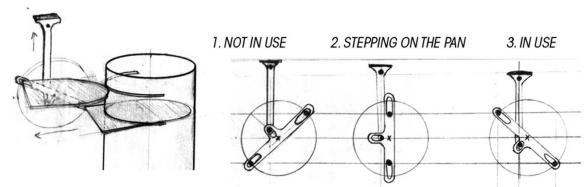


Mechanism ideas





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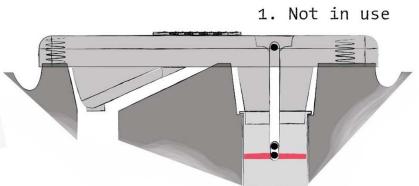


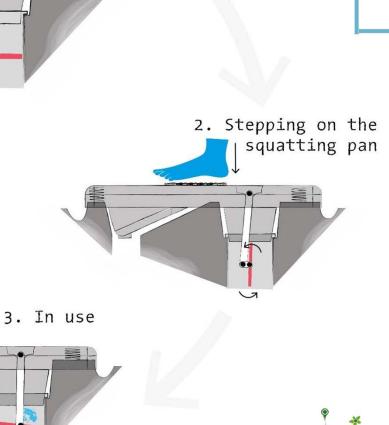


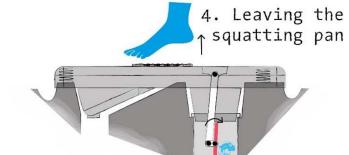


Trap system



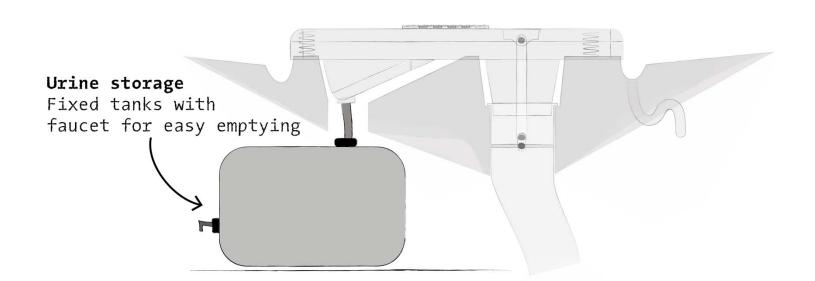








Urine





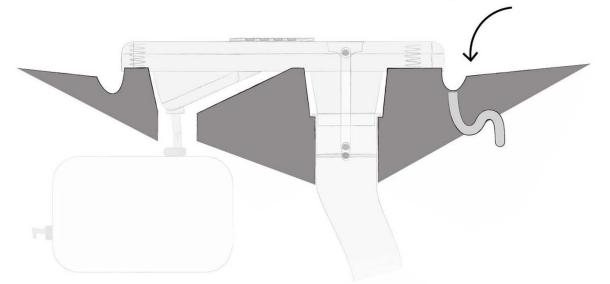




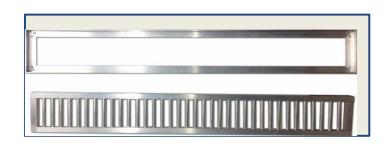


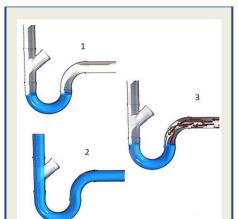
Cleaning

Floor and draining
Slopes towards draining
system to facilitate cleaning





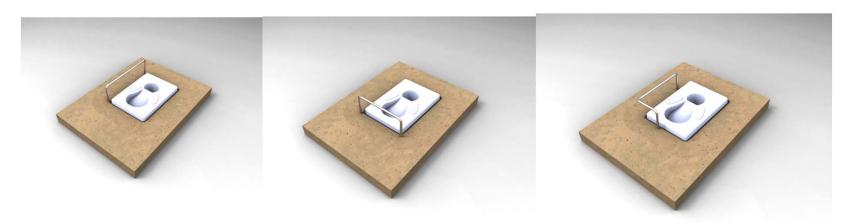






Additional Elements

Handlebar:



Rain Capture:







EcoPan vs Other products

	BI ® LET	Enviro Loo	EcoPan
Less water, and is recycled			
Reuse solid waste			
Reuse Urine			
No requirement of electricity			
Easy to understand how to use			
Big capacity of users			
Unique flap mechanism			





SWOT Analysis

Strengths

- 1 cubicle with 2 rooms: one for men and one for women
- -Facilities can be self- provided
- -Electricity not required
- -Same squatting pan for women and men
- -Low use of water
- -Reuse of the washing water to the bio-digester
- -cleanability: Drain system

Opportunities

- -User Center Design criteria
- -Human rights: sanitation
- -Roca is one of the leading companies in the sector
- -Sustainability criteria

SWOT Analysis

Weakness

- Elevate cost of bio-digester construction
- Limitated background
- Complexity of the mechanism
- Short experience in the sector

Threats

- -ISO's and regulation
- -Hard odours
- -Difficulty to find a universal solution for everything (genders, religions and cultures).
- -Difficulty to treat the waste
- -Correct use of the product
- -Responsability of human lives







