

# The Rhizome Approach

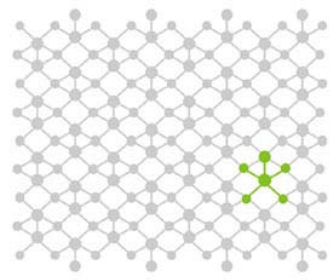
Rebecca Reubens

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**World Bamboo Congress**

**April 15, 2012**

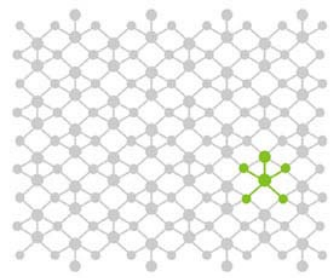
**Merksplas, Belgium**



# background

- Began my journey in bamboo completely by accident while at NID

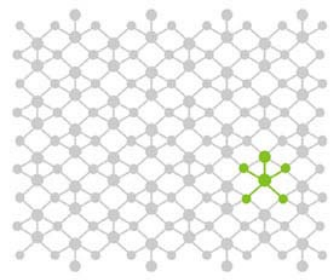




# inbar

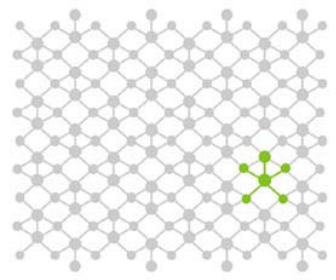
- Worked with INBAR for 7 years
  - UNDP
  - World Bank
  - Governments of
    - Bangladesh
    - China
    - Ghana
    - India
    - Philippines
    - Sri Lanka
    - Tanzania
    - Uganda
  - DDID
  - Altromercato
  - SMEs
  - NGOs





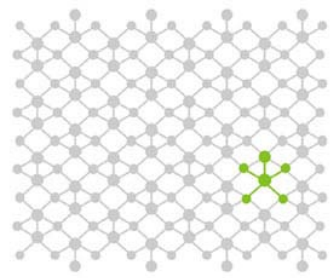
# traditional applications of bamboo





# traditional applications of bamboo

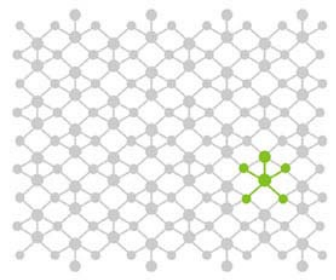




# Potential to provide livelihoods for the economically poor communities

- Easy to process
- Easily available in natural environment
- Does not require capital intensive infrastructure to process
- Can be processed by women and
- marginalized groups
- Is part of a cultural tradition

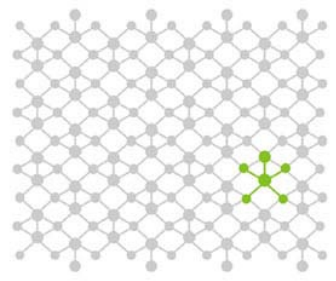




# bamboo: a ecologically sustainable material

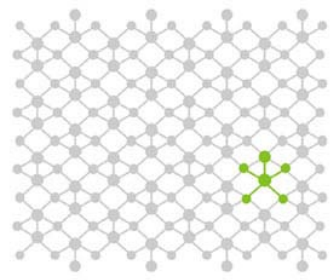
- Highly renewable
  - fastest growing species on the planet, and regenerates without replanting if harvested and managed properly.
- Does not cause deforestation
  - viable timber replacement material
- Mitigates water pollution
  - Its high nitrogen consumption makes it a good solution for wastewater treatment
- Prevents soil erosion
  - Due to its underground rhizome network
- Restores degraded lands
  - Bamboo forests produce 30% more oxygen and greater biomass than hardwood forests of the same size





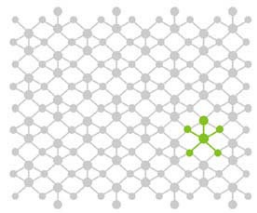
# contemporary applications of bamboo





# laminated bamboo products



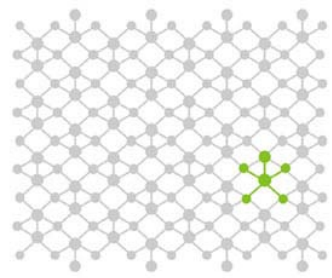


# gap between industrial and handcrafted products



?





# sustainable value chains

- Technology Intensive Chains limit the involvement of traditional producer communities
- Traditional producer communities are pushed back one step lower in the production to consumption and value chains of these products.

## Traditional value chain

Growing – harvesting – transporting- innovating - processing- marketing

## Technology intensive/industrial value chain

Growing – harvesting – transporting- ~~innovating~~ ~~processing~~ ~~marketing~~

- Need for strategy on bamboo as a vehicle for holistic sustainability not just as an eco friendly commercially viable material.

# sustainability: an emerging megatrend including for design!



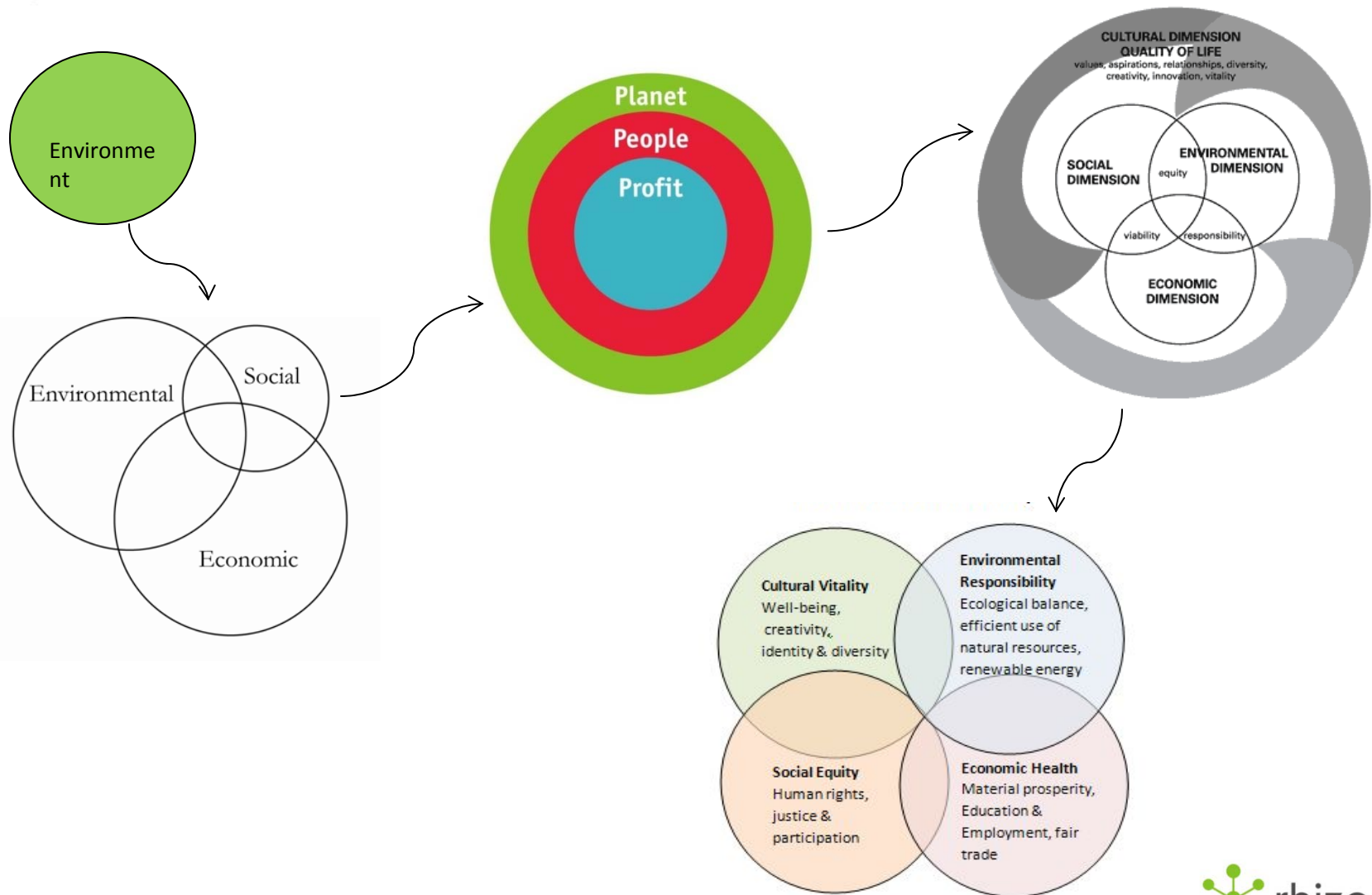
## Megatrend:

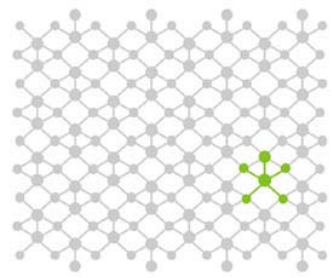
“ A fundamental shift in the competitive landscape that creates inescapable threats and game changing opportunities ... profoundly affects companies' competitiveness and even their survival”

Harvard Business Review, May, 2010

- **Globalized workforces and supply chains** have created environmental pressures and liabilities
- **Intensified competition for natural resources**
- **‘Externalities’** such as CO2 and water are soon **becoming material** to investors
- **Consumers** seek sustainable products and services
- **Governments are interceding** with unprecedented levels of regulation
- **Explosion of innovation** in energy efficiency, renewable power, resource productivity, pollution control etc.

# the expanding scope of 'sustainability'





# who is onboard?

- **EVERYONE!** because Climate Change and the Energy Crisis are permanent
- **Consumers** because it's personal
- **Companies** from SMEs to large corporates because it is affecting the way they do business
- **Mainstream investors, banks and economists** are factoring sustainability related issues into rates and strategic and financial decisions
- **Politicians** are reacting
- **Governments** are cracking down regulatory frameworks like never before
- **Mainstream media** are covering and promoting sustainability





# market: ethical consumerism



UK

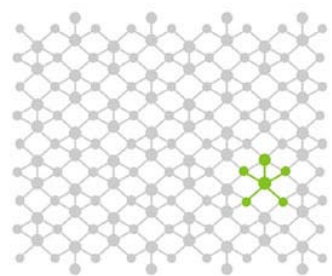
- Overall **ethical market in the UK** was worth £36 billion in 2008 compared to £13.5 billion in 1999
- Sales of **Fair-trade goods** and produce grow from £22 in 1999 to £635 million in 2009
  - Expected to break the the £1 billion barrier in 2010
- Spending on **sustainable products and services** over the past decade has increased tenfold
  - each UK household now spending approx. £251 per annum on green items
- UK to reduce its carbon emissions by 30 per cent by 2020
  - **New collaborations between business, government**
- Concerns about the economy predominate, but consumers are still conscious of specific **environmental** issues
  - 68% consumers more concerned about the economy than the environment
  - Climate change, energy use, waste management most imp. issues



INDIA

- Indian consumers are concerned about **deforestation**, toxics and water management
  - Deforestation most imp. concern
  - 85% say manage toxics, 79% say water
- Indians plan to purchase more green products, but **finding them is a challenge**
  - 81% to spend more on green products next year
  - 72% say not enough green products to choose from – more than any other country
- Consumers are receptive to **advertising**
  - 86% say adverts and promotions help them choose

2010 ImagePower Green Brands survey, based on 9022 online interviews conducted Australia, Brazil, China, France, Germany, India, US, UK from Feb 27 to March 24, 2010  
Ethical Consumerism Report 2010, Cooperative Financial Services



an opportunity:  
the holistic sustainability sweet spot  
for bamboo based SME's

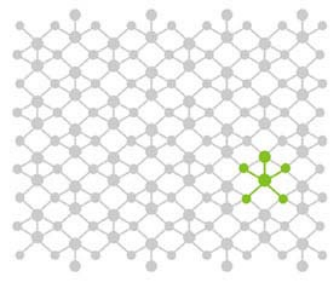




# Opportunity to mainstream sustainability through

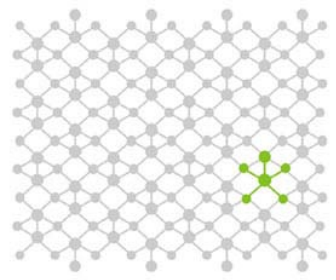
- crafted products (culturally sustainable)
- made from bamboo (ecologically sustainable)
- produced by communities (socially sustainable)
- in line with commercially viable markets (economically sustainable)





# the entrepreneur ?



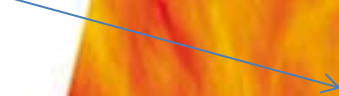


# Guinea pig

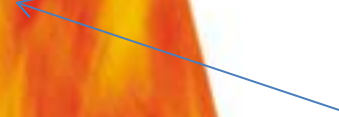
researcher



entrepreneur



activist

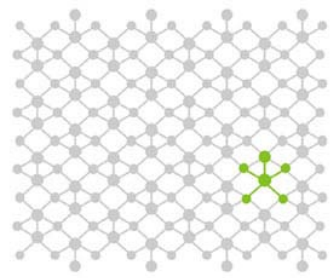




# can sustainability be sustainable through bamboo?

PhD + Design Firm + Store + The Kotwalia Community + TBDC + Eklavya

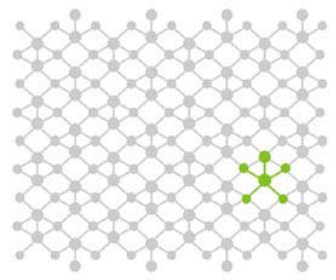




# The Kotwalia

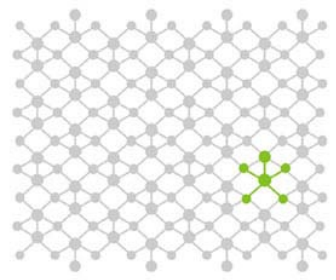
- Community is notified as the most primitive tribe
- Most are categorized as Below Poverty Line (BPL) families
- This tribal community is extremely vulnerable and caught in the vicious cycle of exploitation and poverty because of
  - landlessness
  - lack of literacy
  - unsustainable craft based economy
  - lack of economic and productive skills
  - politically voiceless
  - marginal position.





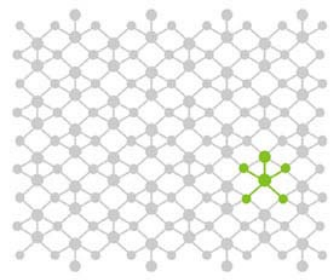
# bamboo canopy





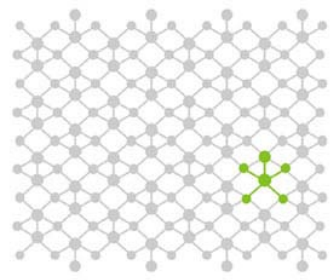
# bamboo canopy





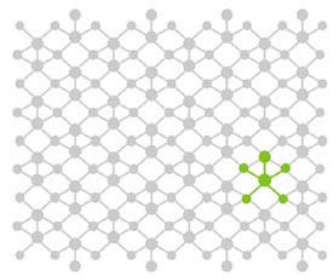
# bamboo canopy





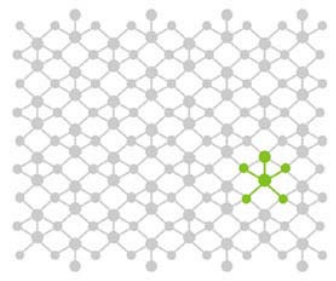
# bamboo canopy





# bamboo canopy



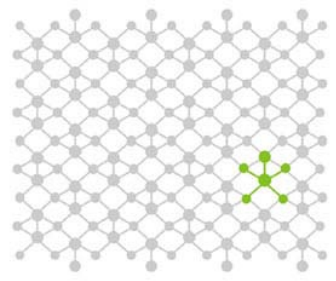


# Conclusion?

- sustainability can be sustainable through bamboo

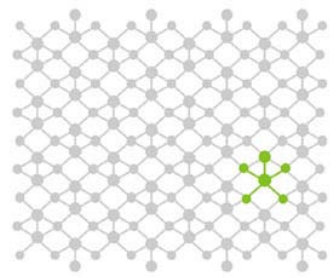
OR

- You can do good full-time and not necessarily be poor.....



# QUESTION?

- If it IS possible – why don't designers design sustainably?????
- Can I devise a framework to make designing sustainably with bamboo easier?

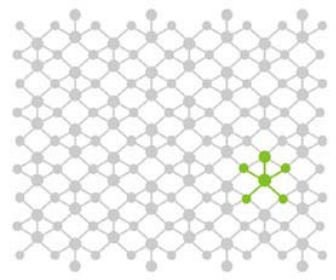


# the rhizome approach

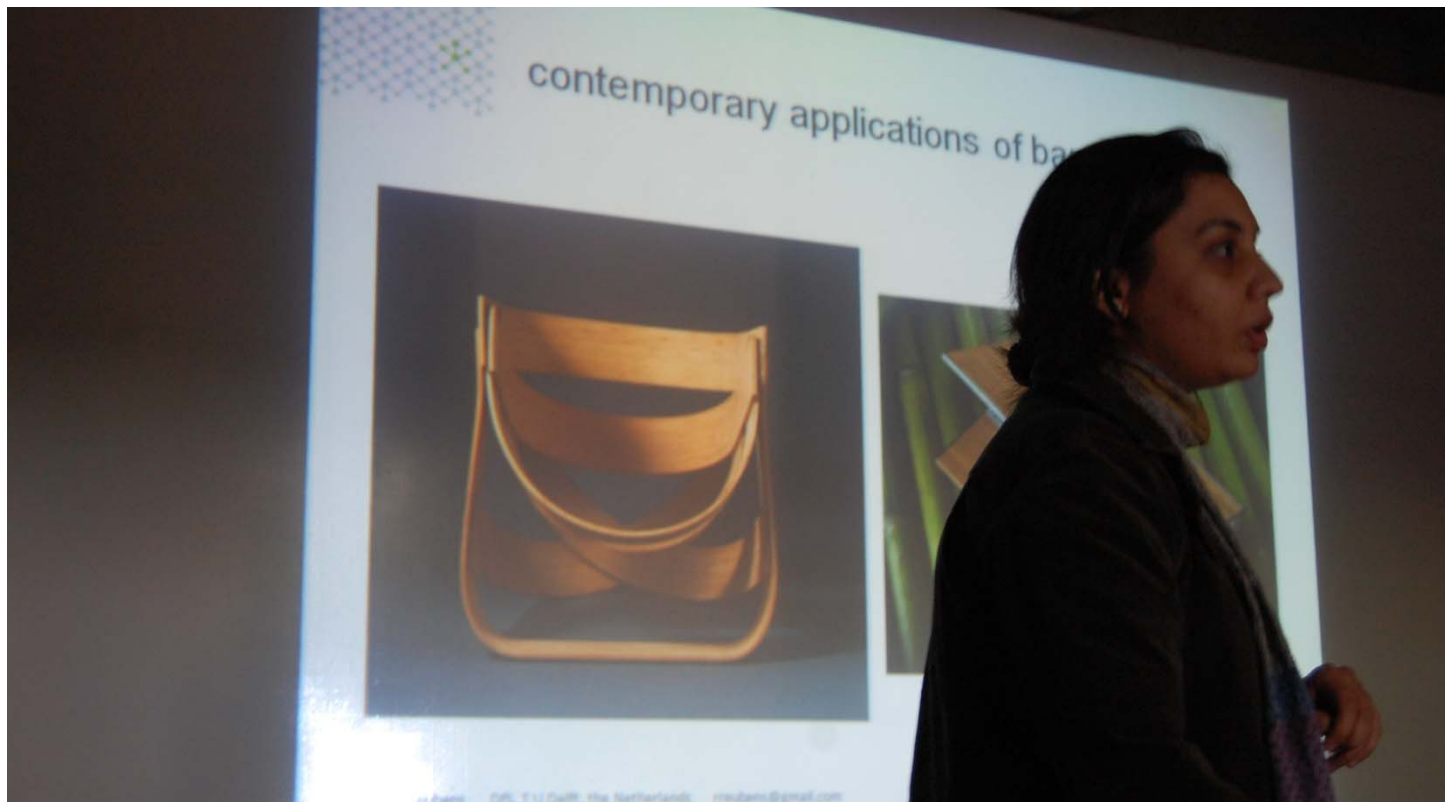
7 point system to help designers design more sustainably



- 23 designers
- 23 craftspeople
- 3 design schools
- 2 NGOs
- One design firm

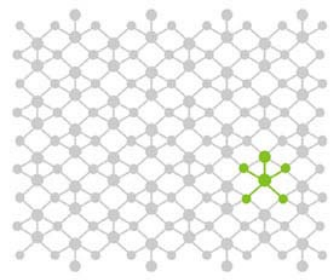


# 1. Lack of knowledge about sustainability

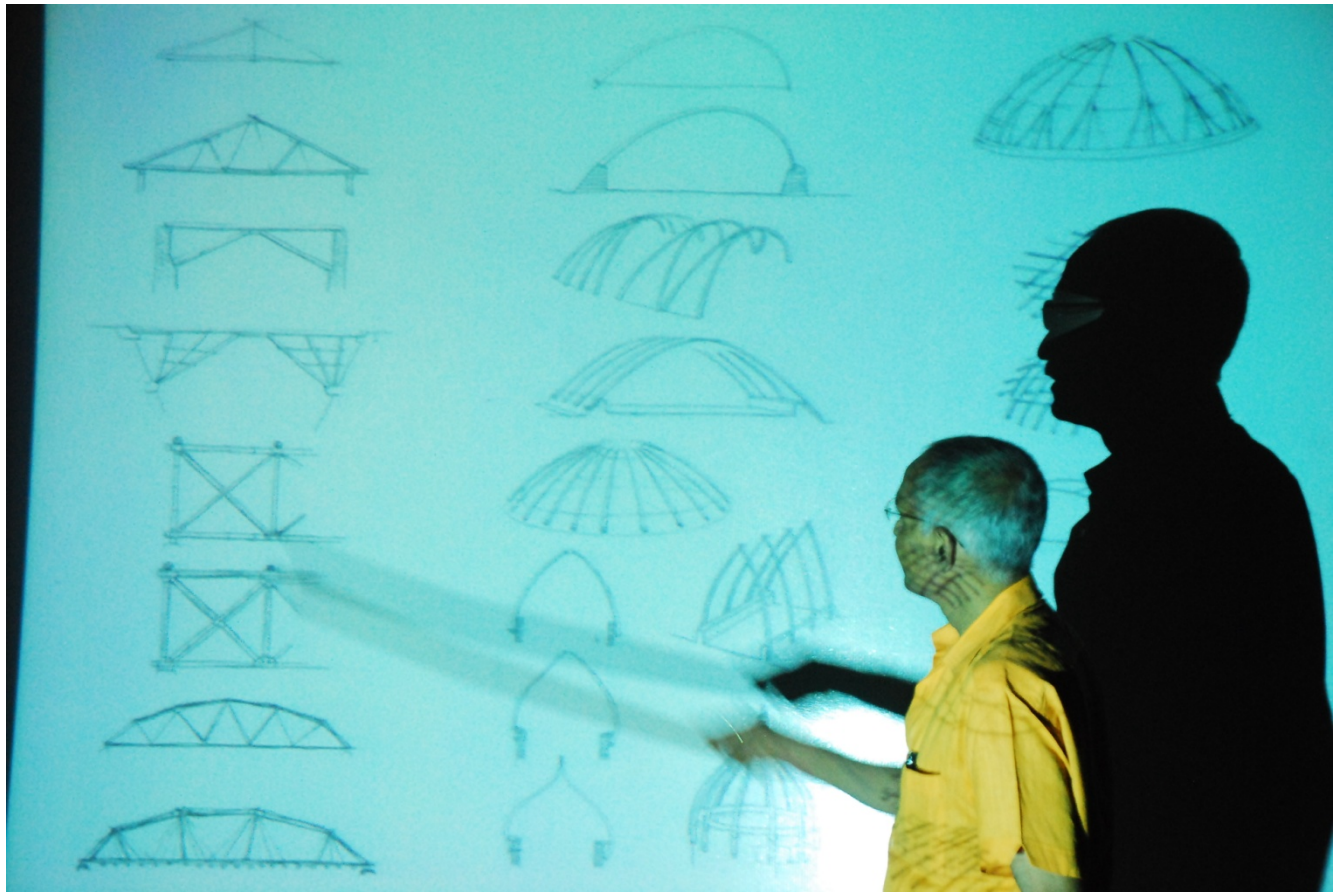


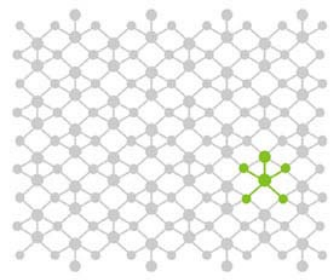
## 2. Lack of a holistic overview of PCS





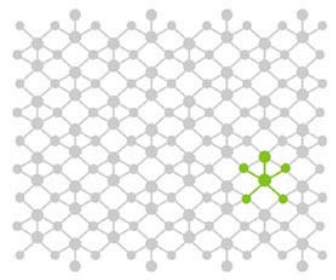
### 3. Lack of including sustainability at a strategic level in the overall approach





## 4. Lack of including sustainability in the design brief





## 5. Lack of collaborative design process

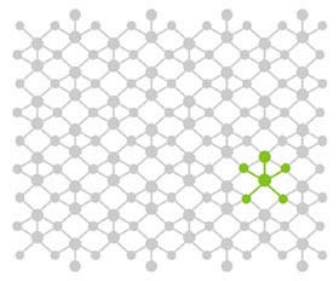




## 6. Lack of tools to measure holistic sustainability against indicators

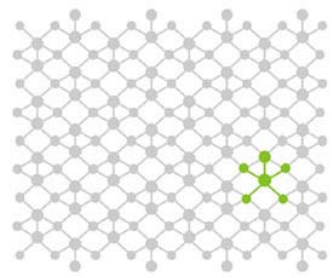
### SUSTAINABILITY CHECKLIST

<i>Production to Consumption System</i>	Environment	Social	Cultural	Economic
<i>Material Selection Considerations</i>				
<i>Production Considerations</i>	•	•	•	•
<i>Distribution considerations</i>				
<i>Consumer use considerations</i>				
<i>End of life handline considerations</i>				



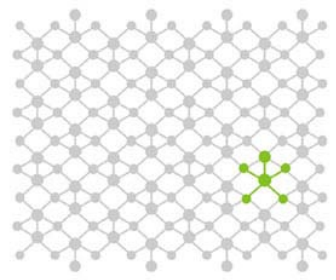
## 7. Lack of design team in loop until final product actualization





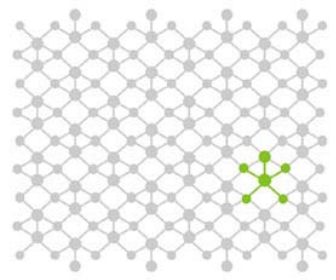
# the result





# the result



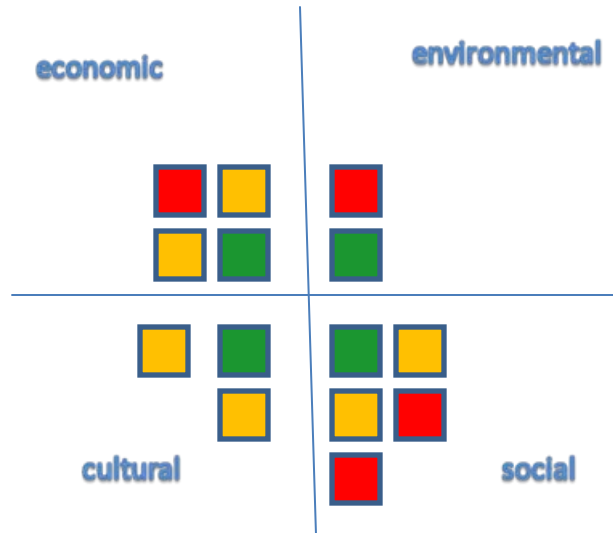


# The road ahead....

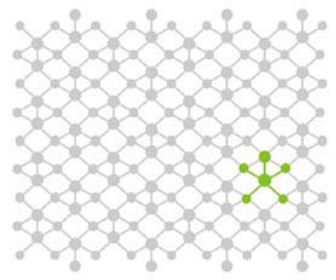
- Developing the criteria
- Developing the scoring system
- Developing the visual representation



# the visual



- easy to visually compute
- Can be represent certification
- Can be part of the brand graphic
- Traffic light?
- Map?
- Landscape?

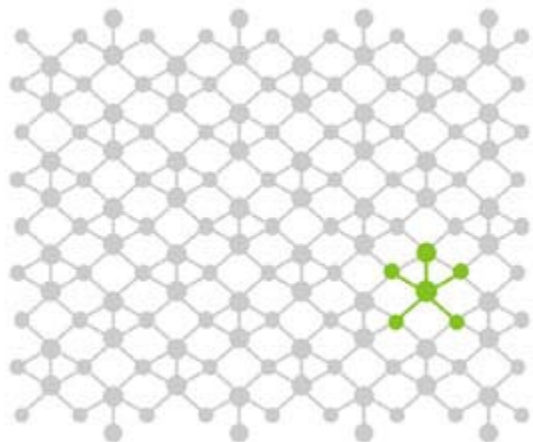


# Sharing the experience

- The book.



# thank you!



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