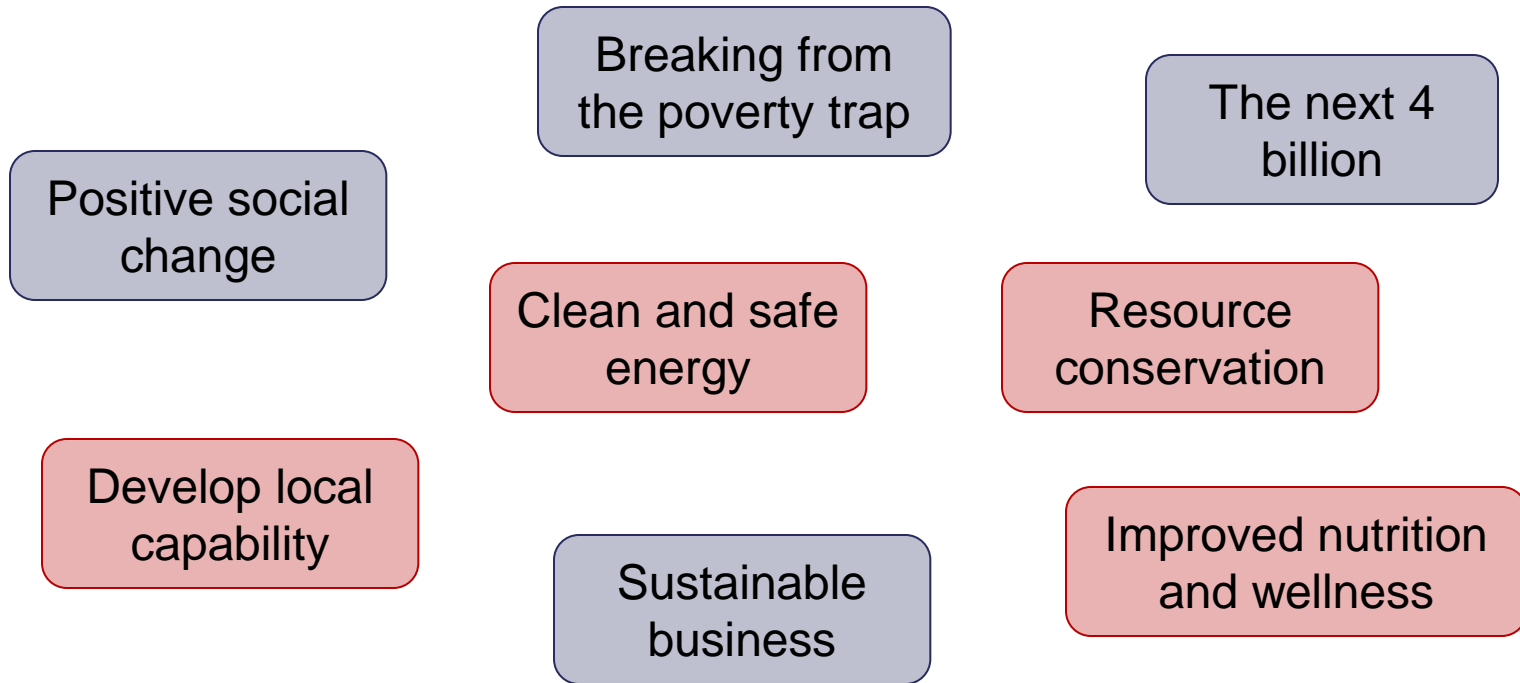


# Rethinking design: Innovation for sustained social benefit in a culturally diverse world

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# Common goals and vision throughout the ETHOS community



*Changing the World... one household at a time*

**Sustained social benefit**

# Fostering innovation to meet growing worldwide needs and emerging middle class

Innovating for sustained social benefit means *designing solutions that meet current needs and promote continued livelihood improvement in the context of local culture, user aspiration, and broader community needs*



Acceptance and continued use

20% 40% 80%  
acceptance

yrs. 1, 2, 5, 20,  
& beyond

Livelihood progression

Changing needs

Placement in society

Pathway of development

Growth of use

From *hundreds* to *millions*

Knowledge transfer,  
core understanding

Business development

Community progression

Local economy

Social & cultural  
structures

Capacity development

*What does this mean to our work...?*

# Implications to appropriate technology development

**Locally-driven** solutions supported by global knowledge

**Choice** and **preference** emphasized throughout solution development

User or **consumer**... *“Where is the value?” “Is it worth my hard-earned money?”*

Strive to meet consumer **aspirations** in addition to consumer **needs**

Superior **quality** and **standards**



Framework for fostering innovation in product development

# Linking the consumer to the product (and back)

## PRODUCT DEVELOPMENT CYCLE

- 1 UNDERSTANDING ENVIRONMENTAL CONTEXTS
- 2 UNDERSTANDING THE CONSUMER
- 3 DEFINING THE DESIGN SPACE
- 4 CONCEPT DEVELOPMENT
- 5 SOLUTION ASSESSMENT
- 6 ANALYSIS, PROTOTYPING & TESTING
- 7 IMPACT ASSESSMENT & EVALUATION

KEY METHODS, DATA, & DECISIONS

# Establishing factors that influence the problem and provide context for the solution

## Six central livelihood resources

Human	Skills & education
Physical	Tools, technology, property
Political	Government structures & policies, laws, authority
Natural	Resource availability, environmental quality
Social	Gender, families & communities, social bonds
Economic	Access to capital, credit & loans, goods of value

*Don't miss the influence of culture on all things...*

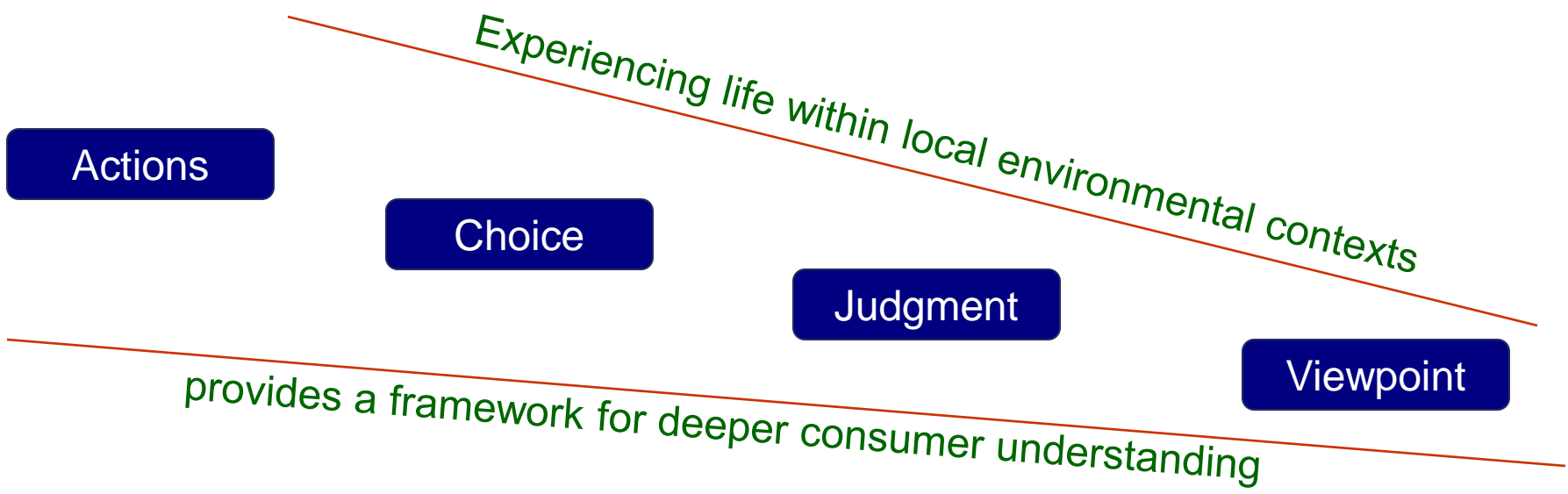
Meaning

Motivation

Habits

# Viewing life and need from the mind of the consumer

UNDERSTANDING THE CONSUMER



Dissatisfaction  
*and*  
Aspiration

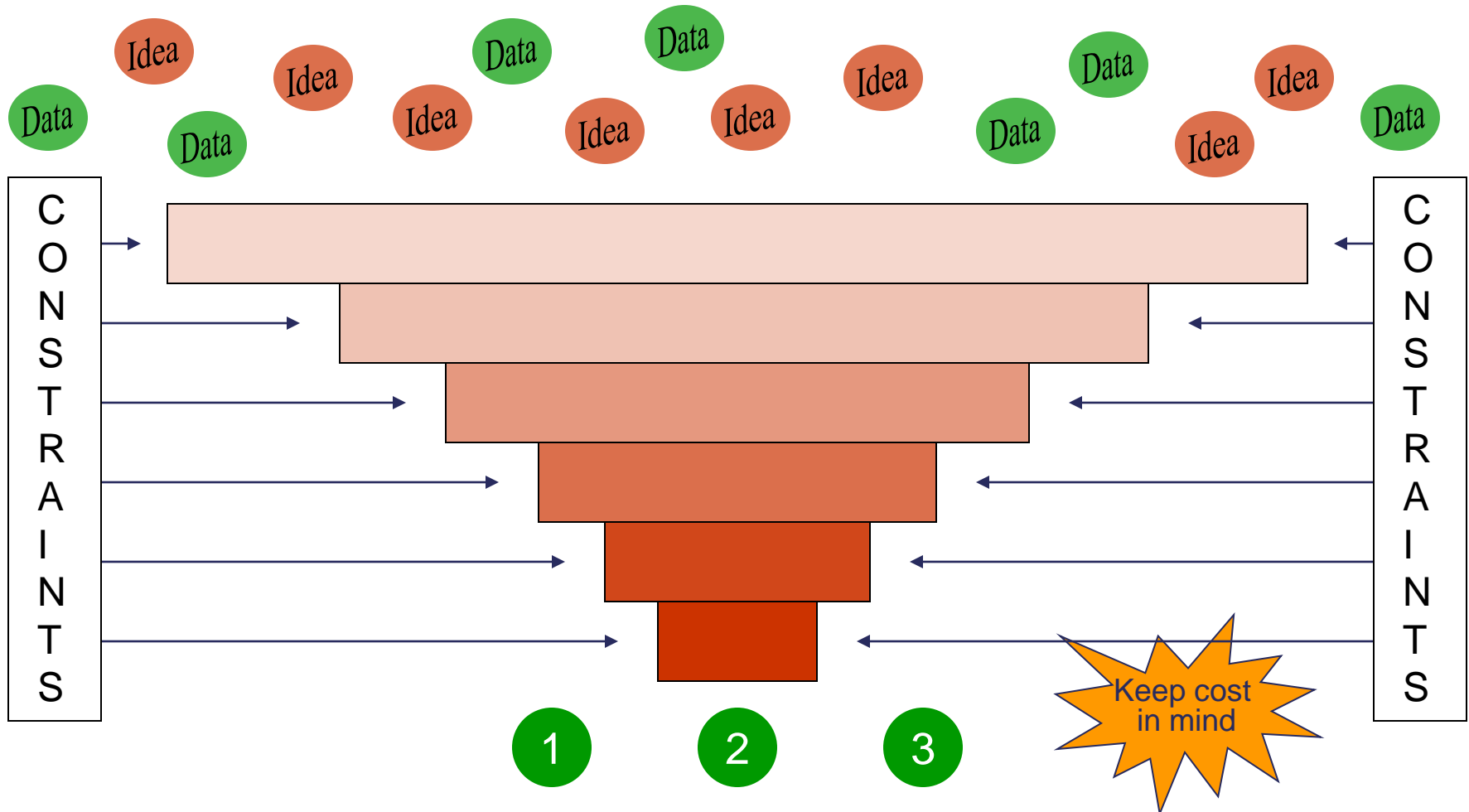


General needs  
*and*  
Specific interests

# Constructing well-defined design spaces for concept development

## DEFINING THE DESIGN SPACE

**Design spaces** are created in a step-wise decision process that narrows the technical landscape using data from environmental contexts and consumer understanding



# Generating product specifications that address consumer needs & group vision

## CONCEPT DEVELOPMENT

*Do no harm...* keeping health and safety as prime specification guide

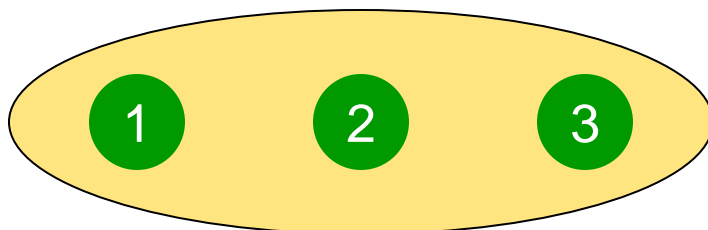
Each concept must illustrate added value that is tangible to the user (thorough assessment of present offers from consumer understanding)

Finding common ground between consumer need and program-business vision: your goals may or may not be similar, work to realize common interests

Make comparisons with existing solutions to establish trade-offs that highlight useful characteristics and aspiration for continued change



### Design spaces



### Concepts



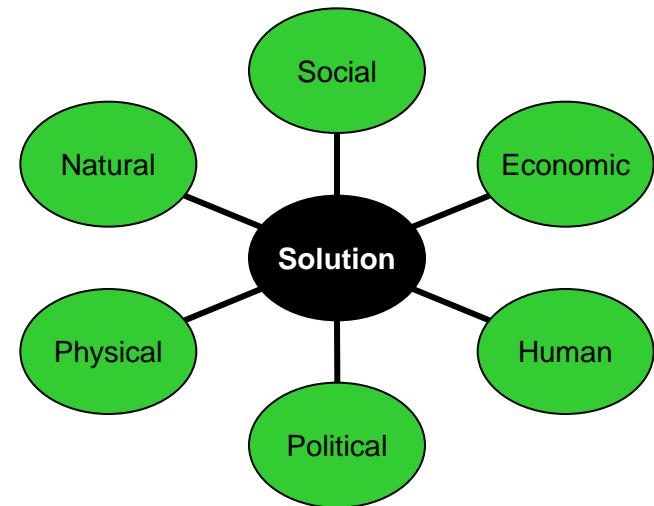
# Evaluating the entire context of the solution to establish validity and opportunity

## SOLUTION ASSESSMENT

Does the entire picture make sense when looking at all relevant factors?

How does the solution relate to other livelihood or environment needs?

How will the consumer pathway and community progression change?



*Utilize links in product development cycle to adjust solution specifications to fulfill goals of sustained social benefit at appropriate cost-quality relationships for the consumer.*

# Iterating to gain improved results in present and future solutions

## ANALYSIS, PROTOTYPING, & TESTING

We must generate *practical* tests and *standards* to ensure *user well-being*

Health

Safety

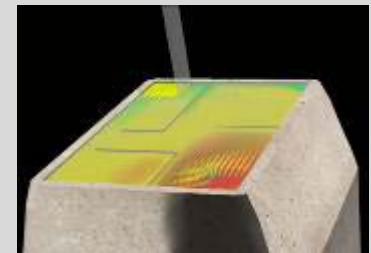
Consumer *choice* structures and market offer *comparisons* can be used to generate *consumer-defined* quality metrics for *acceptance* testing

Performance

Convenience

Aspirations

Utilizing laboratory and field testing to improve product finalization



# Assessing solution against objectives of sustained social benefit

## How do we measure benefit? What has been achieved?



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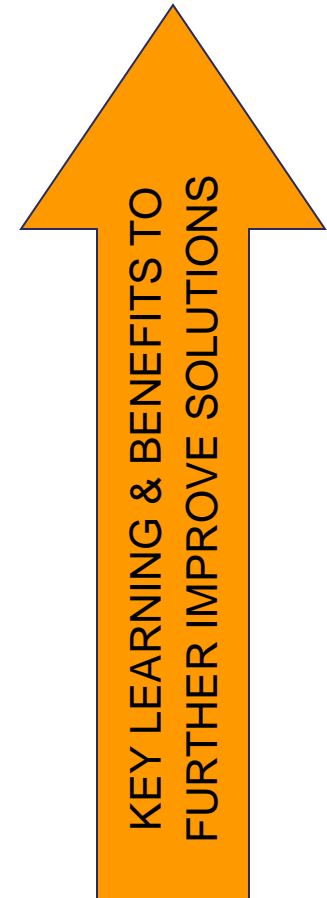
Social & cultural structures

Capacity development



# Iteration and improvement to meet needs of the next 4 billion

## PRODUCT DEVELOPMENT CYCLE



# Creating a structured product development cycle to create socially responsible solutions that meet needs of a diverse and changing world

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What we  
*know and  
can see*

Innovating for sustained social benefit improves present and future livelihoods with greater immediate acceptance and continued long-term interest. Consumer and community progression.

Where  
we are  
*now*

Structured product development cycle to understand present and sustained social benefit surrounding key energy needs.

Where  
we are  
*going*

Further developing methodology, data, and decision parameters for socially aware product development cycle. Working to benefit all programs focused for emerging impoverished peoples & the next 4 billion.