

# Participatory processes to promote energy sustainability on a local level

Systematic Review

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# Content



Why am I doing this research?

How did I do it?

What have I found?

What next?



# Why participatory energy sustainability development?

- Eskom
- Municipal dilemma
- Complex energy systems
- Stakeholders perceptions and believes



# Research methodology

## Systematic literature review:

Structured approach to review primary research in a transparent way.



## Research methodology (cont.)

### Primary research question:

Which structured participatory processes have been applied, in the past seven years, to environmental management problems at a regional, city or community level?

### Secondary questions:

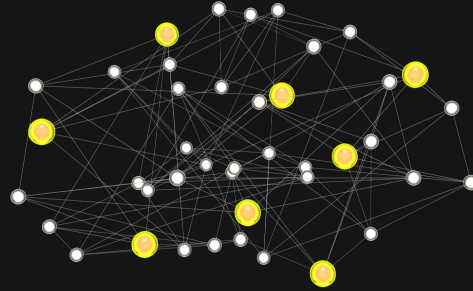
- What are the different approaches followed?
- What are the advantages and limitations of these approaches?
- Which factors do one need to take into account to ensure an effective participatory process are conducted?

# What have I found: Main theories



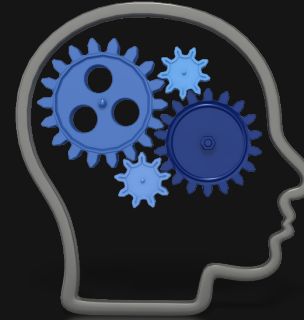
## Participatory process

A process where individuals, groups and organisations choose to take an active role in making decisions that affect them. (Reed, 2008)



## Systems science

A science that deals with hidden complexity, ambiguity and mental models in providing tools and techniques to unravel complexity. (Maani et al. 2007:2)



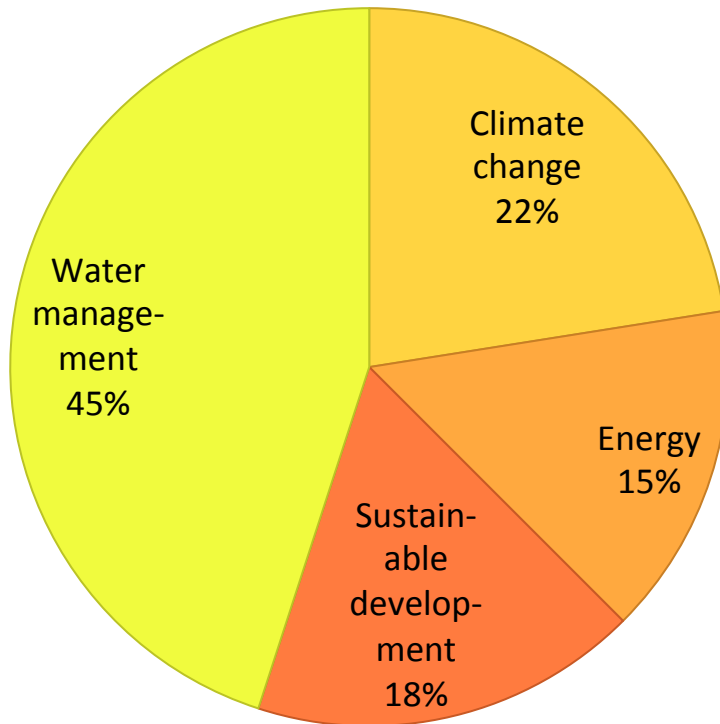
## Decision theory

Deals with three approaches to decision-making namely normative, descriptive and prescriptive.

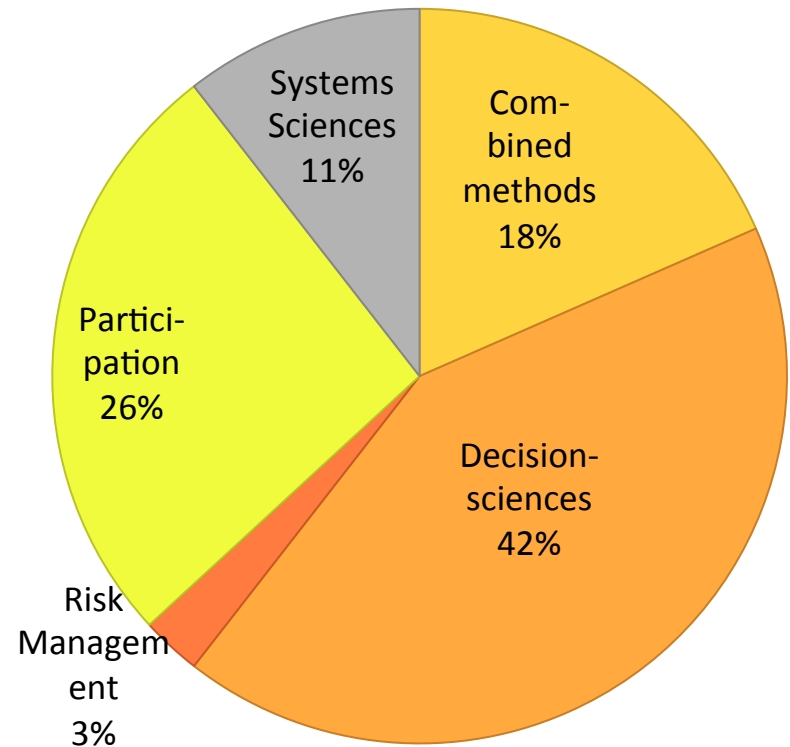


# RESULTS

## Selected studies as per applied sector



## Selected studies as per theory





# Decision sciences: MCDA

Mechanisms to select the best alternative from a number of feasible alternatives under the presence of multiple choices, criteria and priorities.

## Main advantages:

- Can guide stakeholders to find and agree on sustainable solutions
- “MCAs greatest strength lies in its ability to integrate normative judgements (stakeholder opinions) and technical expertise (e.g. quantitative data)” Buchholtz et al. (2009)

## Limitations:

- Difficult to establish the boundaries of stakeholder participation.
- Difficult to aggregate different interests.





# Decision sciences: Scenario planning

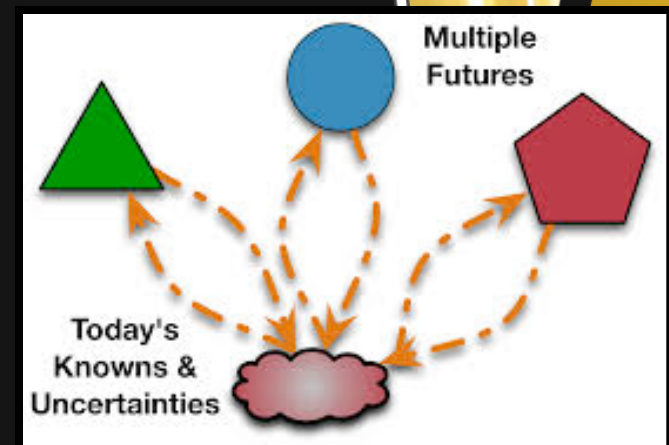
Method of exploring plausible alternative futures in order to provide assistance in the face of uncertain and volatile futures (Susskind, 2010:227).

## Main advantages:

- Way to think about and explore future plausible futures.
- Offers a roadmap with checkpoints.
- Opportunity to change people's knowledge, perceptions and subsequent decisions.

## Limitations:

- Time consuming process;
- Cognitive challenging; and
- Does not necessarily result in a decision.



# Systems thinking and system dynamic modelling

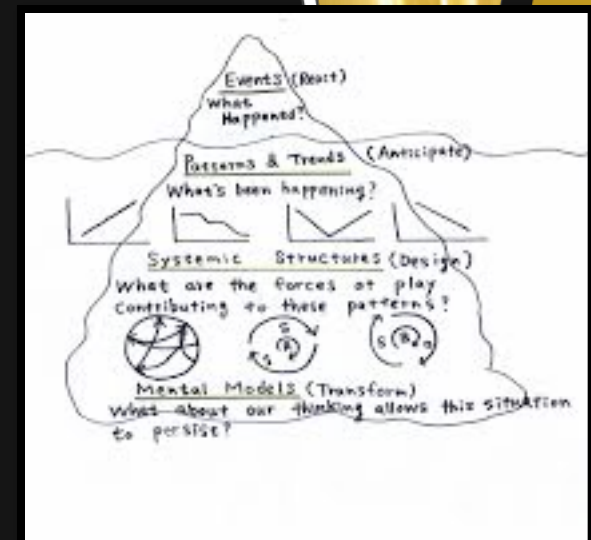
A paradigm of seeing things holistically and interconnected.

## Main advantages:

- Allows stakeholders to discuss perceptions and values;
- Integrated model; and
- The model is easy to engage with in order to test and discuss scenarios.

## Limitations:

- Method does not reflect why and how to make a decision;
- The model mainly focuses on "broad scale behaviour patterns"



# Mixed method approaches

To overcome the limitations of the methods discussed.

## Types of approaches:

- Integration of adaptive governance with participatory multi criteria methods (Munaretto; 2014).
- Participatory processes combined with systems thinking and scenario building (Pidgeon et al.)
- GIS combined with MCDA.
- Stakeholder surveys combined with scenario analyses and simulation modelling

## Challenges:

- To keep a whole system view and to avoid reductionism;
- To ensure that the right information and framings are used;
- To open and maintain deliberative spaces with diverse publics.
- To access broader values.



Now what?

# Factors for success

1. Method selected should handle a broad range of social, economic and environmental goals;
2. A holistic approach is key in facilitating solutions w.r.t. sustainable development.
3. The selection of the relevant stakeholders are crucial for success.
4. The discussions are more valuable than the method chosen
5. Communicate the information and knowledge within a social context.
6. Take into account Reed's best practices for participatory processes





Questions?

