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Workshop: “Enhancing acces to food through agro-ecology: exploring existing and desirable visions for public policies”  
Cirad, Montpellier, 25-27 february 2020

*“Scenario tools in prospective: backcasting approach”*

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# Some remarks: Foresight as a practical activity.

## *What is foresight useful for?*

- **To assist decision making.** Foresight helps to KNOW what can we do IN THE PRESENT for having a better future. (Future is undetermined)
- **To create new individual skills** (complex vision, critical knowledge, open minded)
- **To create anticipatory capabilities in an organization** (to have a vision, to integrate change, to adapt to the context, to lead.
- **To deepen the knowledge of a research field:** it's useful to know what could be the condition to the object or the problem in the future, which drivers condition it, to analyze the objet in a interdisciplinary way. So, it's useful to "open" the object and to create new lines of research.
- **To integrate** multiple frameworks and data, facing future (through methods).
- **To favor the emergence:** foresight helps to create the conditions to change paradigms.

# Foresight approaches

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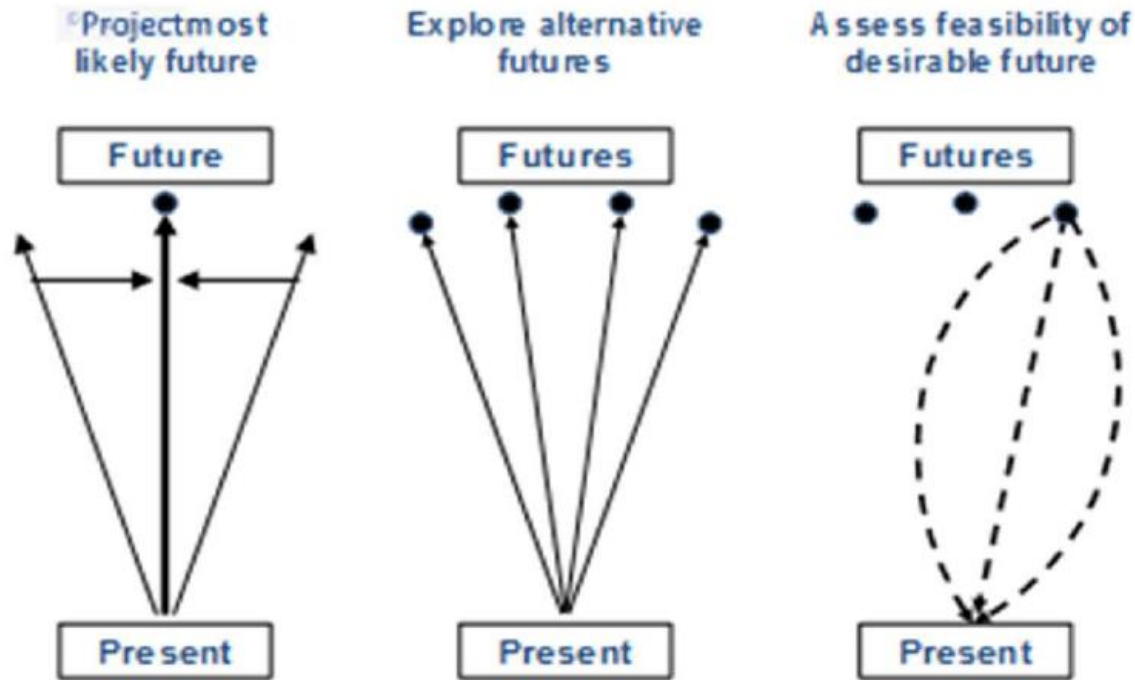
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**Forecasting**

**Scenarios**

**Backcasting**



Source: Robinson (et al, 2011).

1) **Forecasting.** Traditional future vision in science. Project most likely future (*l'avenir le plus probable*), based on projections of back trends. Only quantitative data. More effective for short term. It answers those type of question. ¿How much? ¿Where?

2) **Scenario approach.** From a dynamic diagnosis of the system in the present and in the past, it seeks to built different possible futures. It includes CL and CT data. I answers: ¿What can happen? ¿Why? ¿How?

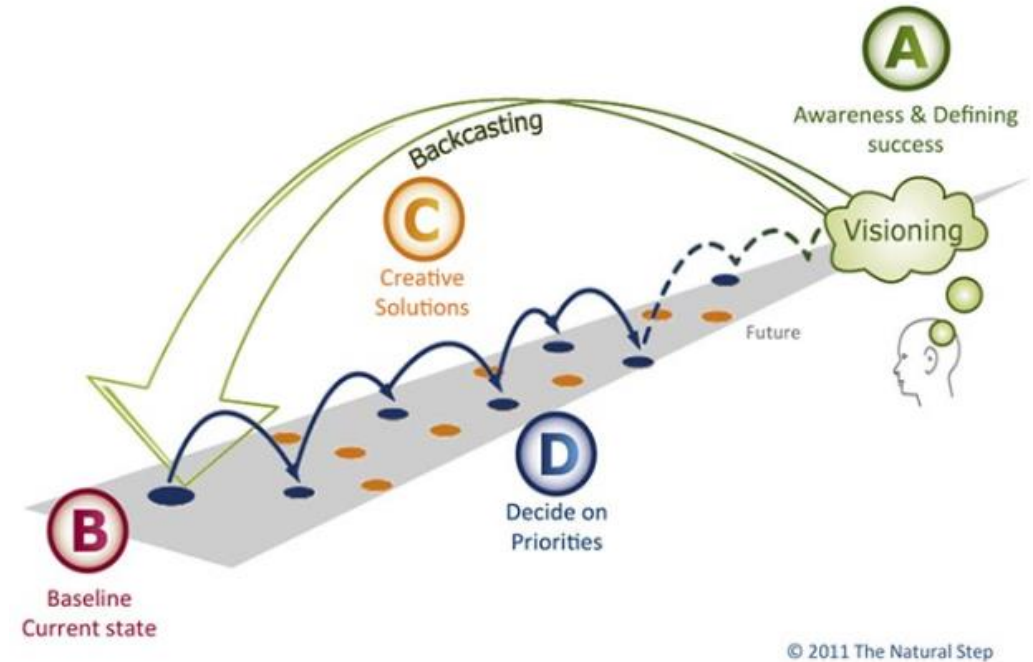
3) **Backcasting approach.** It defines a desirable objective (A VISION) and analyze alternative pathways to achieve it. It answers: ¿How can we get what we want in this context? ¿What can we do?

Methods proposes a different attitude in relation to the uncertainty that the future means: 1 tries to reduce it. 2 & 3 try "to deal with" (Matus 2007).

In general, **we need to articulate the 3 approaches.** They are complementary, but **methods pose the logic of this integration.**

# The aim of Backcasting

- Backcasting proposes a modality “from the future to the present” in the temporal approach, seeking to **build vision** and to **analyze the possible paths to achieve it** (in a retrospective manner).
- It seeks to identify the **intermediate steps** that lead to the future.
- It focuses on analyzing **the margin of freedom of action** and **multidimensional constraints** on the thematic focus of the exercise (Robinson, 1982).



A **vision** is an attractive and idealized description of a desired future state that is historically or contextually better.

# Same background

- There are two generations of backcasting (Van Bers, et al, 2016): the previous one, more experimental and quantitative, and another more close to narrative approach and formalized.
- Some example of the first one: Latin American Model, in '70s, a response from the South to the Roma Report: *The limits of growing*. It analyses the material feasibility of meeting the basic needs of the world's population, with available resources (in which time and conditions). They don't do narratives, they contrast models.
- In the 80s backcasting begins to be formalized by Robinson's works on energy sector (Robinson, 1982; 2003; Robinson et al, 2011).

Herrera, et al, 1976

Robinson, 1982

## Energy backcasting

A proposed method of policy analysis

John Bridger Robinson

There have recently emerged a number of analyses which suggest that there exists a large potential for 'soft energy' policy paths. It is difficult to illustrate this argument using conventional forecasting techniques, therefore these analyses tend to use an alternative method, called energy backcasting. This involves setting policy goals and then determining how those goals could be met. As yet, however, little attention has been paid to the theoretical aspects of backcasting techniques. In this article a specific backcasting method is proposed, which, it is argued, allows consideration of many factors obscured in traditional energy supply and demand forecasts.

Keywords: Energy; Policy analysis; Soft energy paths

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'Soft energy path' (SEP) studies were initiated by Amory Lovins and came to prominence in an article in Foreign Affairs, January 1976. (Energy, 1976)

Over the past 50 years an increasing number of studies have emerged which challenge conventional views of the energy problem. Many of these studies are concerned with 'soft energy path' futures, i.e. a future based on conservation policies and renewable energy.<sup>1</sup> Since it is difficult to forecast substantial long-term changes in energy supply and demand patterns, most soft energy path studies employ variants of an alternative method popularized by Amory Lovins. Lovins described this method as 'backwards-looking analysis', now known as 'energy backcasting'.<sup>2</sup>

The major distinguishing characteristic of backcasting analyses is the concern, not with likely energy futures, but with how desirable futures can be attained. It is thus explicitly normative, involving 'working backwards' from a particular future end-point to the present to determine what policy measures would be required to reach that future.

The end-point used as a basis for soft energy path analysis is usually a low demand society that relies entirely, or very nearly, on renewable energy flows.<sup>3</sup> To permit time for the turnover of capital stock implied in such a transaction, end-points times are usually chosen quite far (25-75 years) in the future.

### Forecasting and backcasting

Very substantial differences exist between the approach and implications of energy backcasting and forecasting techniques. The major difference is that backcasts are not intended to indicate what the future will likely be, but to indicate the relative implications of different policy goals.

While the value of an energy forecast as conventionally used by decision makers depends on its accuracy (that is on the degree to which it accurately suggests what is likely to happen) this is not the case with backcasting. Instead backcasting is intended to suggest the implications of different futures chosen not on the basis of likelihood but on the basis



In Argentina, Agustín Merello (1972) (sociologist) interpreted the logic of recent French foresight in terms of backcasting:

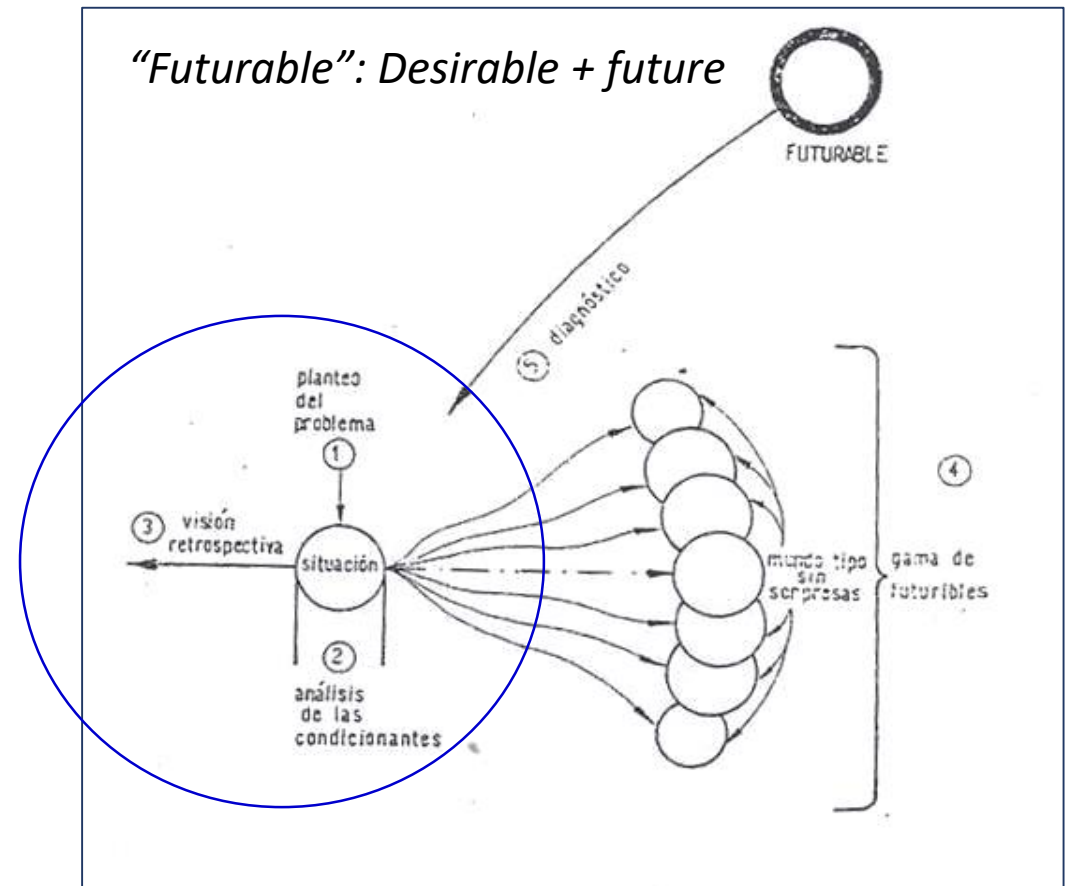
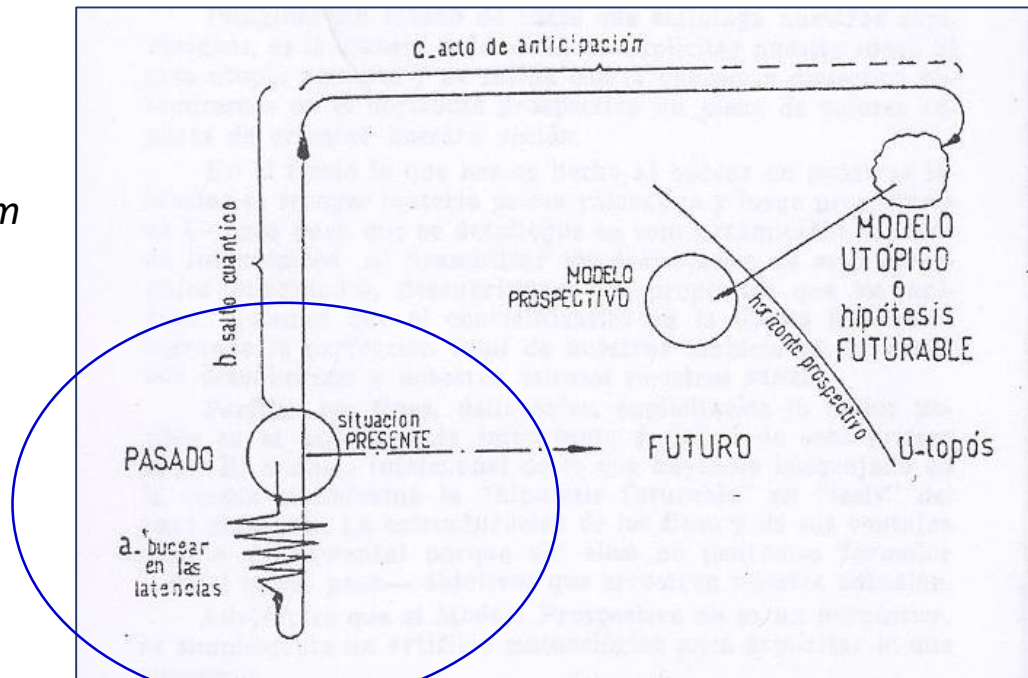
“Foresight has a mental system that, in its most important stretch, **comes from the future to the present...**”

“Only when retrospective vision is the fruit of a **forward-looking vision**, the researcher takes an **active attitude to history**.”

This breaks with the linear vision of time and shows that prospective tackles future, but also very important is the knowledge about the past and the analysis of the present.

“Quantum jump”

“To deep to latencies”



# Premises of Backcasting

- As it works on desired futures, it is necessary to consider a medium-long term, to realistically analyze processes in which problems can change significantly or systemically. The end-points can be: **25-75 años** (Robinson, 1982).
- **Politics and decisions** are in the center of the inquiry. That's a big difference with those approach where politics doesn't appear (it's explicitly normative).
- **What backcasting is not:** It's different to planning. The idea is not to make rigid plans, but rather to analyze policy alternatives and their relative implications for vision. It also differs from mega-goal approaches.
- **Long time horizon + complexity + hard uncertainties + relationship between human system and nature over time**, are the key issues.

# There is no single way to do Backcasting

(Robinson himself has proposed various ways.)

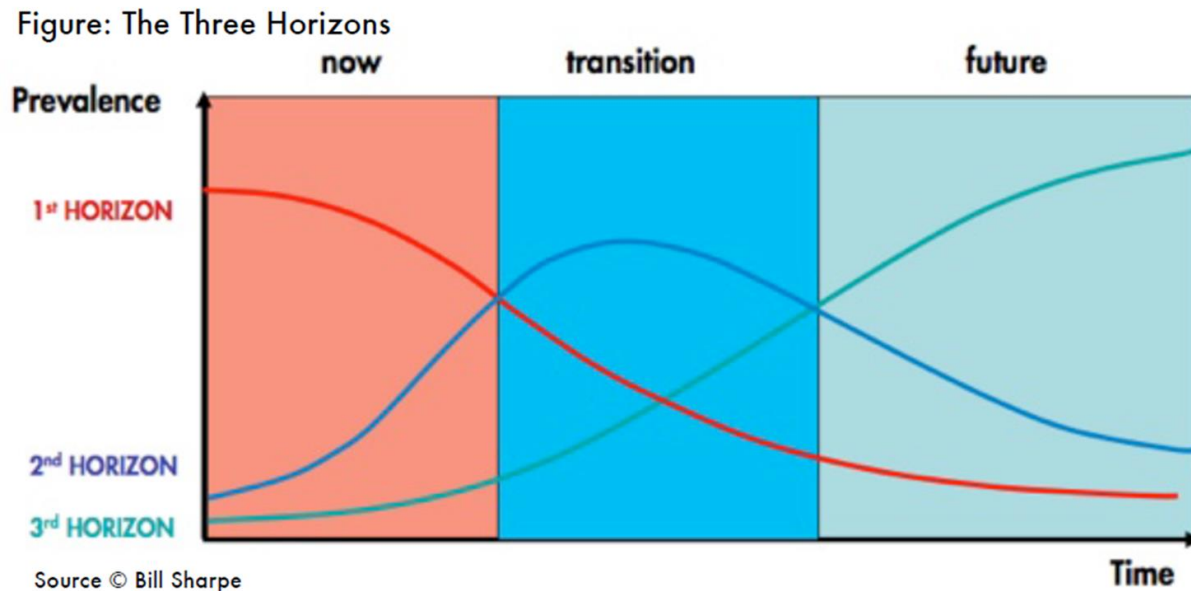
But, **what we need to do:**

- **A description of the system in the present**, in as much detail as possible.
- **A definition of the system of the desired future** (this can be both the input and the result of the exercise, depending on the path and tools to be used) (Example: IDDRI VS Robinson)
- **Define time horizon** (If the horizon is short, more constraints are placed on reaching it, based on the current situation. The result is less useful because it is not realistic. And if the end point is further away, we have a more speculative analysis turns out. 30-50 years allows a reversal of trend without restricting the analysis)
- **Construct the model and the pathway of the future society.** Models are usually used. But it is not enough, it is necessary to have a qualitative and participatory work on possible paths. The great challenge is to achieve consistency by integrating qualitative and quantitative aspects, science and participation.
- **Intermediate points can be selected**, depending on their analytical utility, between the beginning and the end, where actions and policies should be specified, and the relative costs of each (not only in economic terms). One tool that helps in the construction of the path is **THREE HORIZONS**.
- **Analyze implications of decisions and policies.** Contrasting with the constraints and with the desired future, to see if the result fits it.

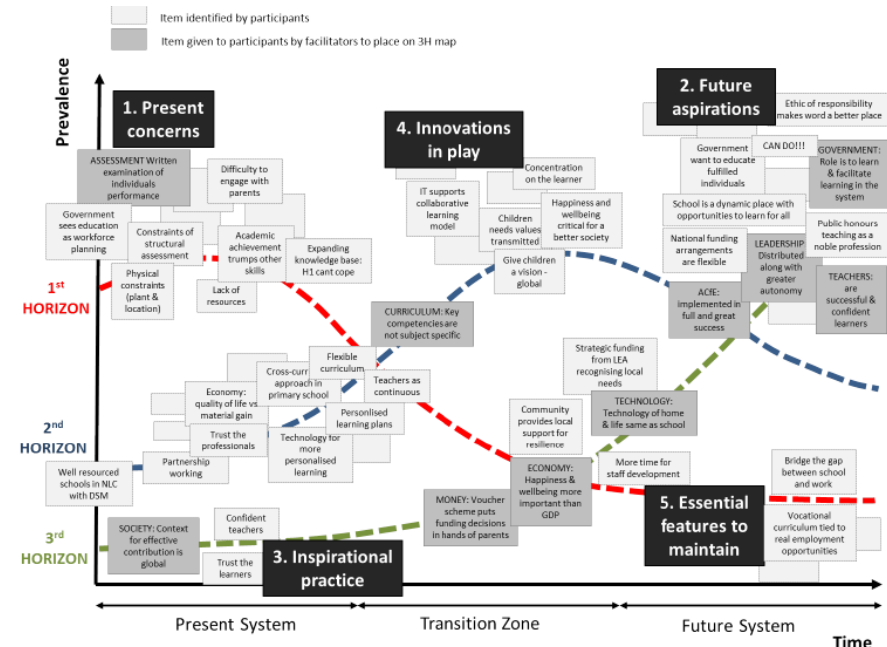


# “Three Horizons”

- Three horizons can be seen as a way of operationalizing this perspective. This method divide the process into three phases: now (horizon one), then (horizon three) and the interim phase between (H 3) (Martin and Hanington, 2019: 18)
- With this operationalization, it help us to elaborate narratives about the pathway we need.



3 logics of future horizon (3 dynamic of change)



Three Horizons as a process to structure dialogue developed through working with a local authority in Scotland to transition to the Curriculum for Excellence (Sharpe, et al, 2016).

# An example

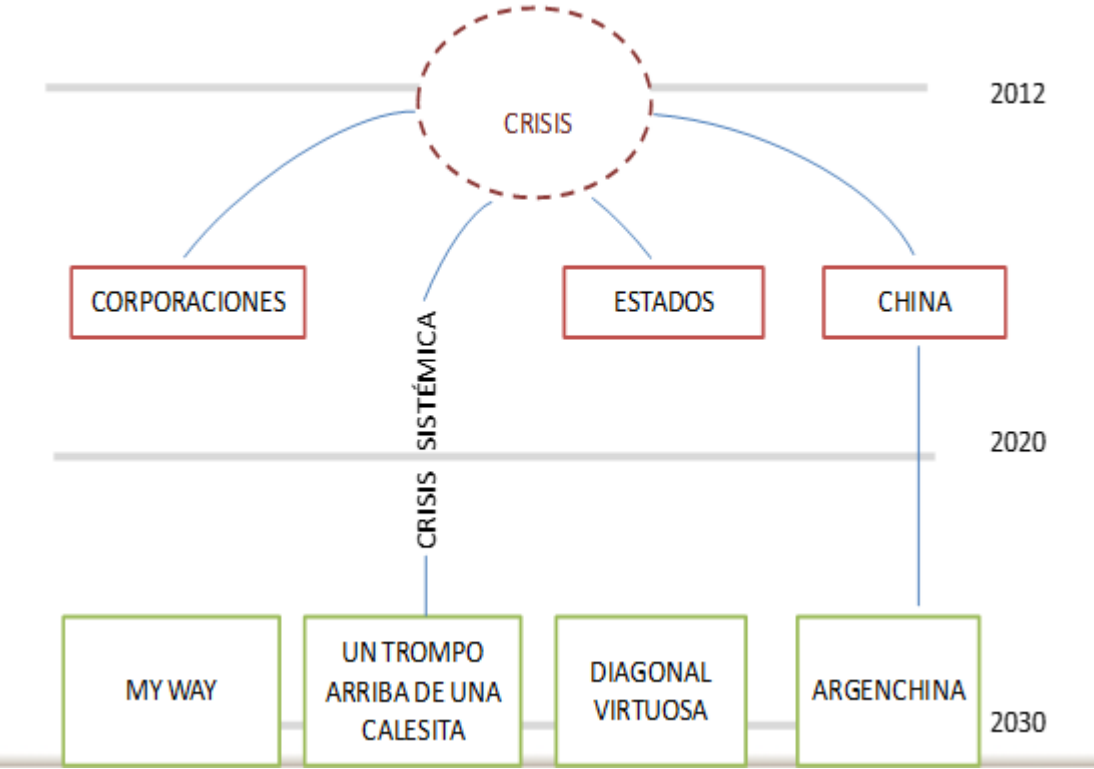
- Strategic foresight exercise at INTA (2013-2014)
- After having performed two staging exercises, one focusing on national development (macro) and the other on the agricultural system (sectoral), a backcasting essay is made (Strategic Foresight).
- Scope: the exercise does not design all the institutional steps to follow in the future, but it does offer a comprehensive look at strategies, proposing "thick strokes" (*traits épais*) that are then processed by the institution.

## Exercises:

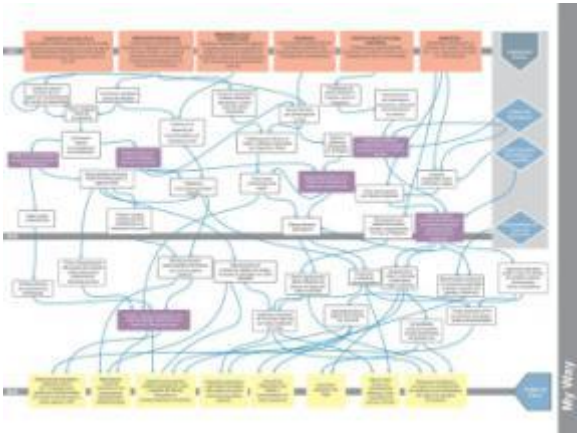
- *Foresight of national development to 2015 (2007)*
- *Scenarios for Argentinian agro alimentary system (2010)*

# Scenario method as background of backcasting method

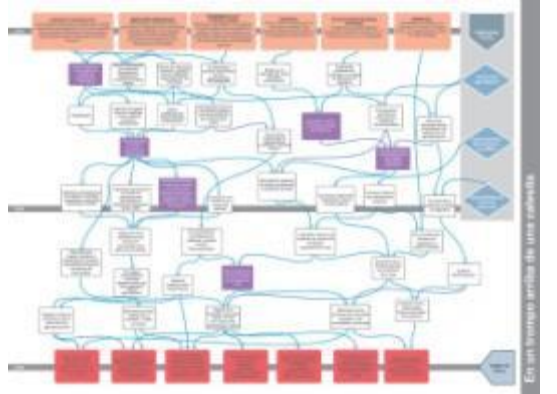
Scenario method based on morphological analysis, over 22 principle drivers identified (global, national and regional scale)



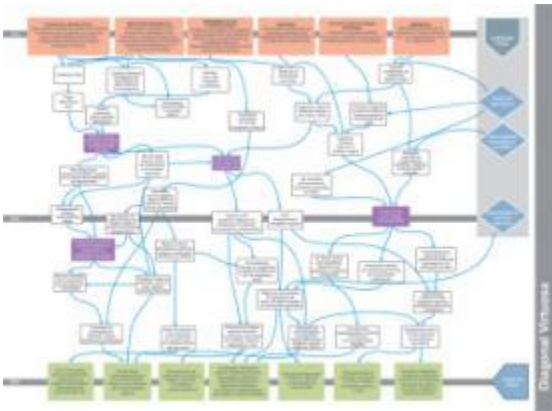
“My Way”



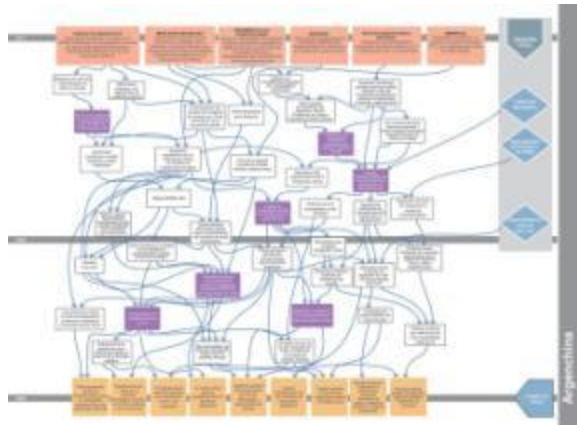
Trompo en calesita



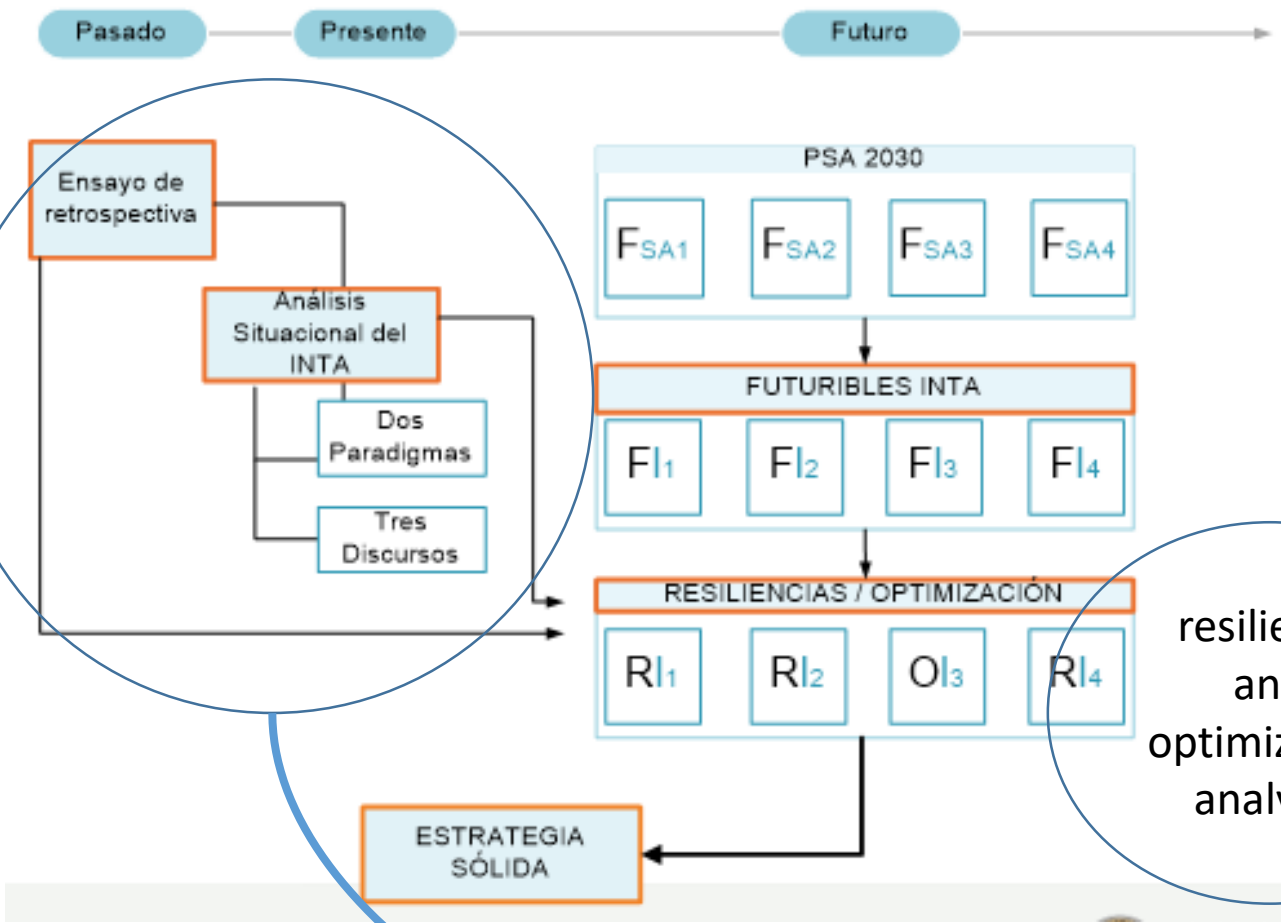
Diagonal Virtuosa



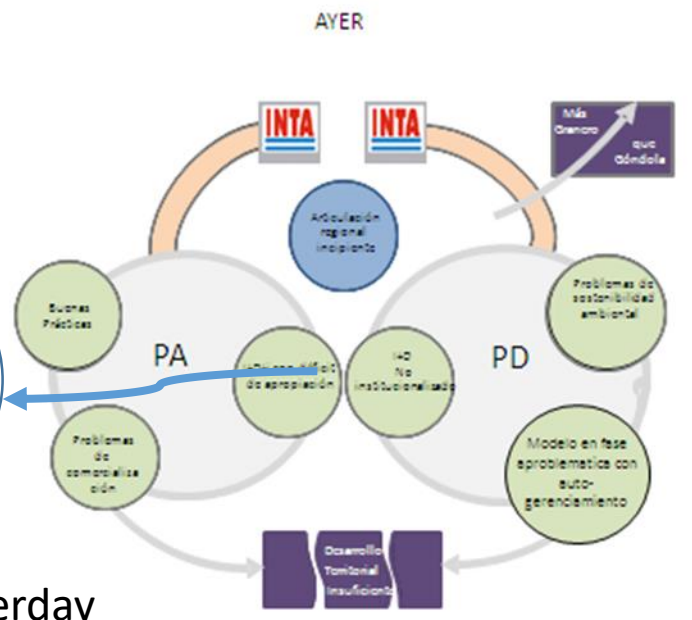
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# Some results in diagrams

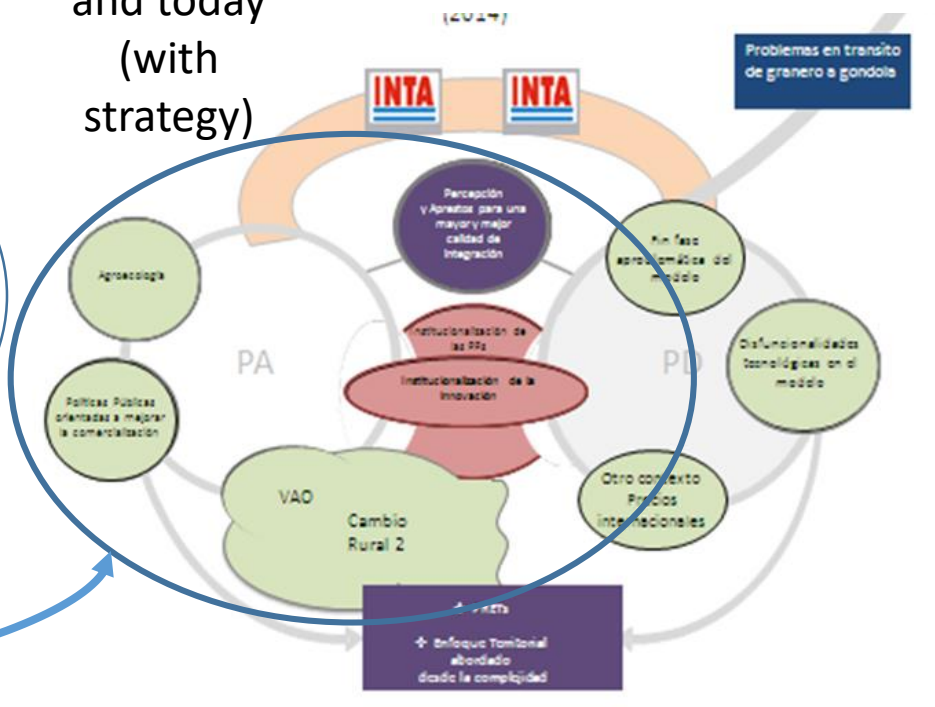


Value addition:  
point of articulation



Yesterday and today  
(with strategy)

resilience and optimization analysis

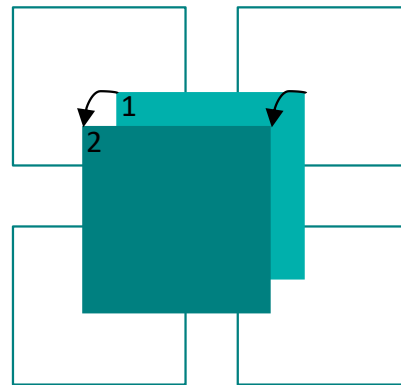
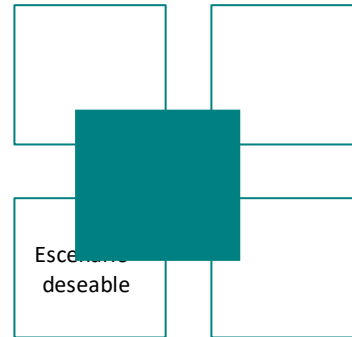
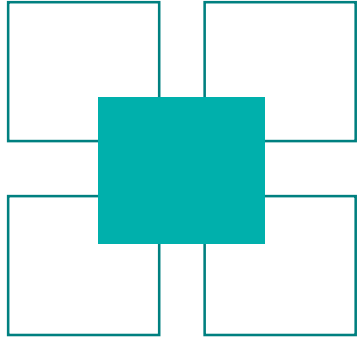


# Strategic-situational analysis: Actors

## 2 Paradigms

	<b>PD</b>	<b>PA</b>
<b>Ideological and epistemic roof</b>	Neoliberalism, management, positivism	developmentalism, nationalism, constructivism, participative research, agroecology
<b>Types of activities</b>	Agricultura industrial, exportación, cadenas commodities	Low scale agricultura, horticulture, self consumption
<b>Discourse</b>	Agribusiness culture, productivity. "Food the world"	Social and environmental dimension. Alternative forms of trade. Food sovereignty
<b>Subject</b>	Viable producer	Communities, family farming
<b>Support</b>	NGO y agribusiness knowledge networks, sectorial organizations, diffusing agents, legitimit agentes, transnacional capitals	Rural small farming organizations, academic sectors, regional forums, public policies, social movements, others sudamerican governments

## Robust strategy: the place of scenarios and strategy



We need a strategy that responds to the challenges posed by each scenario. But that also leads to the best of all scenarios.

# Last remark

## Diagnosis $\neq$ prospective

- Diagnostics can be almost infinite and will rarely say anything about the future
- Foresight allows to integrate the knowledge produced by science but in the logic of its own exercises
- His methods seek to convene (to call) science and scientists, and to social participation, to play the “game” of the future
- Doing so, foresight provides synthesis, critical analysis and future vision.

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