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The social aspects of robust production systems

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1. Introduction

In the past decades agriculture has become much more vulnerable to disturbances. From a systems-theory perspective these are interpreted as unwanted fluctuations. Robustness, the capacity of a system to undergo disturbance and still maintain functions and controls, might be a way to control these external disturbances. However, the development of robust systems must fit in both sustainable and socially acceptable agriculture.
A uniform definition of robustness is missing. As a consequence societal stakeholders and scientists use varying conceptualizations of robustness. Unclear is in what way societal concepts of robustness are translated into scientific research questions and how scientific results render towards practical approaches on farm level. To justify robustness as a research goal for sustainable and social acceptable agriculture its relation with these concepts, its content and its power to steer to solutions needs to be developed.

2. Purpose of the study

A better understanding of the dynamics of society-science-society translations is needed to ensure that scientific results are directed at the identified problems and translatable into applications. This study concentrates on their normative background.

The general aim of this research is to analyze and discuss the concept of robustness in scientific goal setting and society-science-society translations from an ethical and technology assessment perspective. In the theoretical part of this study we present a conceptual analysis of robustness in various fields.

3. Results (theoretical part)

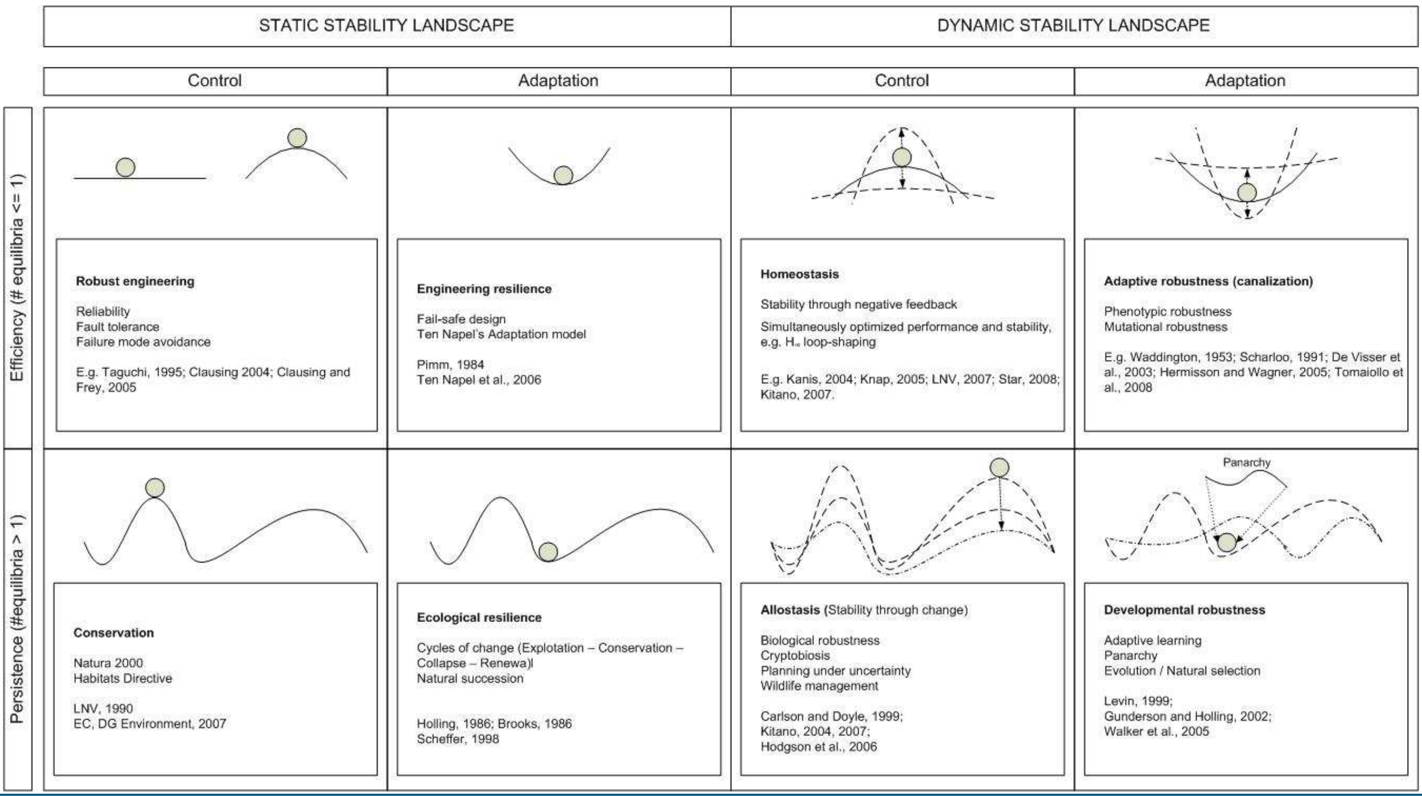
Different paradigms concerning stability (efficiency - persistence), behaviour (control – adaptation) and stability landscapes (static – dynamic) lead to different conceptualizations of robustness (see below). Interpretations of robustness include for instance:

"resilient to designed-for uncertainties in environment or components" (Willinger & Doyle, 2005);

"a product or process that can be exposed to variations without suffering unacceptable performance degradation" (Allen, 2006);

"a collection of features that keep an animal physically and mentally healthy" (Ministry of Agriculture, Nature and Food Quality, 2007)

We are interested in understanding how your system is (being made) robust. Does your project give an interpretation of the meaning of robustness in the agri-sector? Contact: Douwe.deGoede@wur.nl



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