



Exploring social structures and agency in backcasting studies for sustainable development

Josefin Wangel*

Division of Environmental Strategies Research, Royal Institute of Technology, Stockholm, Sweden

ARTICLE INFO

Article history:

Received 22 December 2010
Received in revised form 2 March 2011
Accepted 3 March 2011
Available online 3 April 2011

Keywords:

Backcasting
Socio-technical
Social
Agency
Change agent

ABSTRACT

This paper examines how social structures and agency have been included in backcasting studies for sustainable development. For this purpose an analytical framework was developed, based on what objects of change (whats), measures (hows) and change agents (whos) are included in the scenario, and to which extent these are approached in an explorative way. Through reviewing a number of backcasting studies it was found that these typically are built upon and elaborated with a predominant focus on the questions of *what* and *how* physical/technical aspects could change. Social objects of change and explicit representation or analysis of the question of *who* could change is rarely included in the analysis. This unbalance brings a number of implications. Firstly, not including social structures and agency obstructs developing socio-technically consistent and comprehensive scenarios. Secondly, through not addressing the questions of *how to change* and *change by whom* in an explicit and explorative way, social structures and agency become represented only implicitly and/or are maintained according to the status quo.

© 2011 Elsevier Inc. All rights reserved.

1. Introduction

Throughout its history, the focal point of (environmental) sustainable development has shifted numerous times, both in terms of problem formulation and of measures to be taken [1,2]. Starting in nature conservation, ecology, and end-of-pipe pollution control, sustainable development then became recognised as a matter of cleaner production, a question for local action and participation [3,4], and sustainable consumption [5–10]. Rather than being consecutive, these focal points have also led to an understanding of sustainable development as characterised by complexity. This complexity arises from the perceived need to integrate social, ecological and technical subsystems [11–13] and from these systems being understood as multi-levelled [16], dynamic and characterised by different types of uncertainty [14]. The shift in focal points does not only imply a shift from end-point abatement to more pro-active approaches but has also brought about recognition of the importance of also including social structures when addressing sustainable development, preferably through a socio-technical approach [9,10,15].

Backcasting is a futures studies approach which has been recognised as a fruitful way for addressing sustainable development, an object of study which is complex, calling for major changes, and for which dominant trends are parts of the problem [16]. One main characteristic of backcasting studies is the development of one or more goal-fulfilling images of the future, answering the question of *how a certain target can be met when contemporary structures block the changes sought* [17–19]. The images of the future are then connected to the present through elaborating one or more pathways of transition, developed from the future looking back [17,18,20].

Backcasting was first used in the 1970s as an approach for the analysis and planning of energy systems, but has since been used to address a wider field of sustainability issues, such as land use, transport, buildings and food. In this way backcasting can be seen

* Environmental Strategies Research, DKV 30, Royal Institute of Technology, SE-100 44 Stockholm, Sweden. Tel.: +46 8 790 85 88.
E-mail address: josefin.wangel@abe.kth.se.

as having followed the focal points of sustainable development quite closely. Also in the field of backcasting can be found a recognition that far-reaching societal changes – such as sustainable development – require social structures to be included in the process of change [18,21–26].

However, recognition in theory does not equate recognition in practice. This paper aims at exploring to which extent this recognition has influenced the practice of backcasting; i.e. in which ways and to what extent do backcasting studies of sustainable development include, analyse and represent social structures and agency.

This paper is structured as follows: Section 2 gives a brief introduction to how social structures and agency can be understood, while the concept of backcasting is further introduced in Section 3. Section 4 describes the methodology used for the literature review, including an analytical framework developed for this purpose. Section 5 presents the findings, which are discussed in Section 6 and used as the basis for some concluding reflections which are presented in Section 7.

2. Social structures and agency

A variety of social and socio-technical theories and approaches exist through which social structures and agency can be understood; each with their implications concerning what is found through a backcasting study and how these findings are interpreted and translated into recommendations for policy and practice.

In contemporary strategies for sustainable development technological fixes and behavioural changes typically make the standard pair of solution. To explore and explain opportunities and pitfalls of policies and behavioural interventions the social sciences have typically been ascribed a role of ‘social engineering’ in which unwanted behaviours are seen as amendable through the two magic wands of economic incentives and informational campaigns. However, this role has been criticised for being carved out in a too rational and technocratic manner [16,27–32]. Critics question the understanding of people as individual decision-makers driven by economic and moral rationality and argue that people rather are to be understood as social negotiators who reflexively rationalise and change their activities in relation to other people [33]. Moreover, that the ‘social engineering’ approach neglects the extent to which technological and physical structures influence the social ditto. Instead, critics propose a socio-technical approach.

In its most basic sense a socio-technical starting-point implies an understanding of society as a seamless web in which technological and social aspects are interwoven and mutually structuring. Thus, no part of a socio-technical configuration can be changed without also taking account of the others. At the macro-level of society this means seeing policy at the same time being dependent on and constituting techno-political paradigms and regimes, and socio-technical path-dependency [11,14,34]. At the level of households or individuals this not only means acknowledging people as social negotiators but also taking into account the enabling, restricting or even persuasive effect of technologies and physical structures [29,31,32].

In this paper the terms *social structures and agency* are used to denote ‘the social’ part of the socio-technical society. This comprises both *formal institutions*, i.e. explicit and formalized structures such as policies, recommendations, taxes, and organisations, and *informal institutions* such as regimes, norms, values, and social practices. *Agent* and *agency* are here used to mean human actors and are used to refer to individuals and organisations with a factual or fictitious capacity to act. Besides this, social structure and agency are not restricted to any specific theoretical starting-point concerning how ‘the social’ and ‘the technical’ are understood, or how they are thought to interact.

3. Backcasting

Backcasting is not an unambiguous concept. There are a variety of interpretations, with one of the main dividing lines being the relative emphasis on whether the image of the future needs to be developed as goal-fulfilling or not [35,36], and whether it is seen as crucial or optional to outline pathways of transition too [18,21], or whether this is something that should be avoided altogether [23]. Another dividing line noted is the degree of participation in the backcasting study, i.e. whether the scenarios are developed mainly by experts or through stakeholder or citizen participation [19,37].

3.1. Backcasting for different purposes

This paper recognises that even though this diversity of interpretations might be confusing, there are good grounds for retaining them. Backcasting studies are used for a variety of purposes and depending on the aim, each of the aforementioned backcasting practices has its rationale. The potential gains of including social structures in a backcasting study are highly dependent on the purpose of the study. Consequently, in accordance with the scenario typology developed by Börjeson et al. [20], this paper distinguishes between different approaches based on the overarching aim of the backcasting study. Primarily it can be useful to distinguish between backcasting as a result-orientated research approach, and backcasting as a participation-orientated creative workshop technique [38]. When being used as a research approach methodological stringency is an important trait and the question of participation is subordinate to the purpose of the study. When being used as a workshop technique the reverse is true and the backcasting methodology can be adjusted to better suit the desired outcome of the participation. Result-orientated backcasting can be further distinguished depending on the extent to which the study is target-orientated, pathway-orientated, and/or action-orientated. These are not mutually exclusive, as a single study could include all three aspects, but depending on the relative emphasis placed on these, the rationale for including social structures and agency will differ.

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات