Stakeholder Analysis for Systems Thinking and Modelling

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Abstract

The systems thinking and modelling framework involve five major phases: problem structuring, causal loop modelling, dynamic modelling, scenario planning & modelling , and implementation & organisational learning. In this paper we propose that stakeholder analysis would enrich the systems thinking and modelling process. Specifically, we explain the importance of stakeholder analysis in the problem structuring and scenario planning & modelling phases. We demonstrate the usefulness of stakeholder analysis by presenting a brief New Zealand case study.

1. Introduction

The importance of stakeholder concept is growing in management literature. Since Freeman [5] published his landmark book, 'Strategic Management: A Stakeholder Approach', the concept of stakeholders has become embedded in management scholarship and in managers' thinking [7]. About a dozen books and more than 100 articles with primary emphasis on stakeholder concept have appeared in management literature following Freeman's book [3].

We begin this paper by presenting the different stages through which the stakeholder concept developed in the management literature. Using a chronological map (Figure 1), we explore and classify stakeholder literature for a better understanding of the stakeholder concept.

We also examine the relevance of stakeholder analysis in systems thinking and modelling. We suggest that a systematic analysis of stakeholders could enrich the 'problem structuring' and 'scenario planning & modelling' phases of systems thinking and modelling framework. We demonstrate the usefulness of stakeholder analysis by presenting a brief New Zealand case study.

2. Stakeholder Literature

The development of the stakeholder concept in the management literature can be classified into different stages as shown in the stakeholder literature map (Figure 1). After its origin in 1963, the concept diversified into four different fields namely, corporate planning, systems theory, corporate social responsibility and organisation theory. We call this stage as classical stakeholder literature.

The next landmark in the development of stakeholder literature was the book by Freeman[5], Strategic Management: A Stakeholder Approach. After this book, this literature developed around three different aspects namely, descriptive/empirical aspect, instrumental aspect and normative aspect. Donaldson and Preston [3] brought these three aspects together in their stakeholder theory of corporation.

Further, the stakeholder literature started spreading its wings to interesting areas like dynamics of stakeholder and stakeholder theories. Several empirical studies were also conducted to validate the theoretical claims relating to the stakeholder concepts.

A detailed description of this literature map is available in the paper by Elias, Cavana & Jackson [4]. But for the scope of this paper we discuss three important stages in the development of this literature, namely, classical stakeholder literature, strategic management: a stakeholder approach and dynamics of stakeholders.
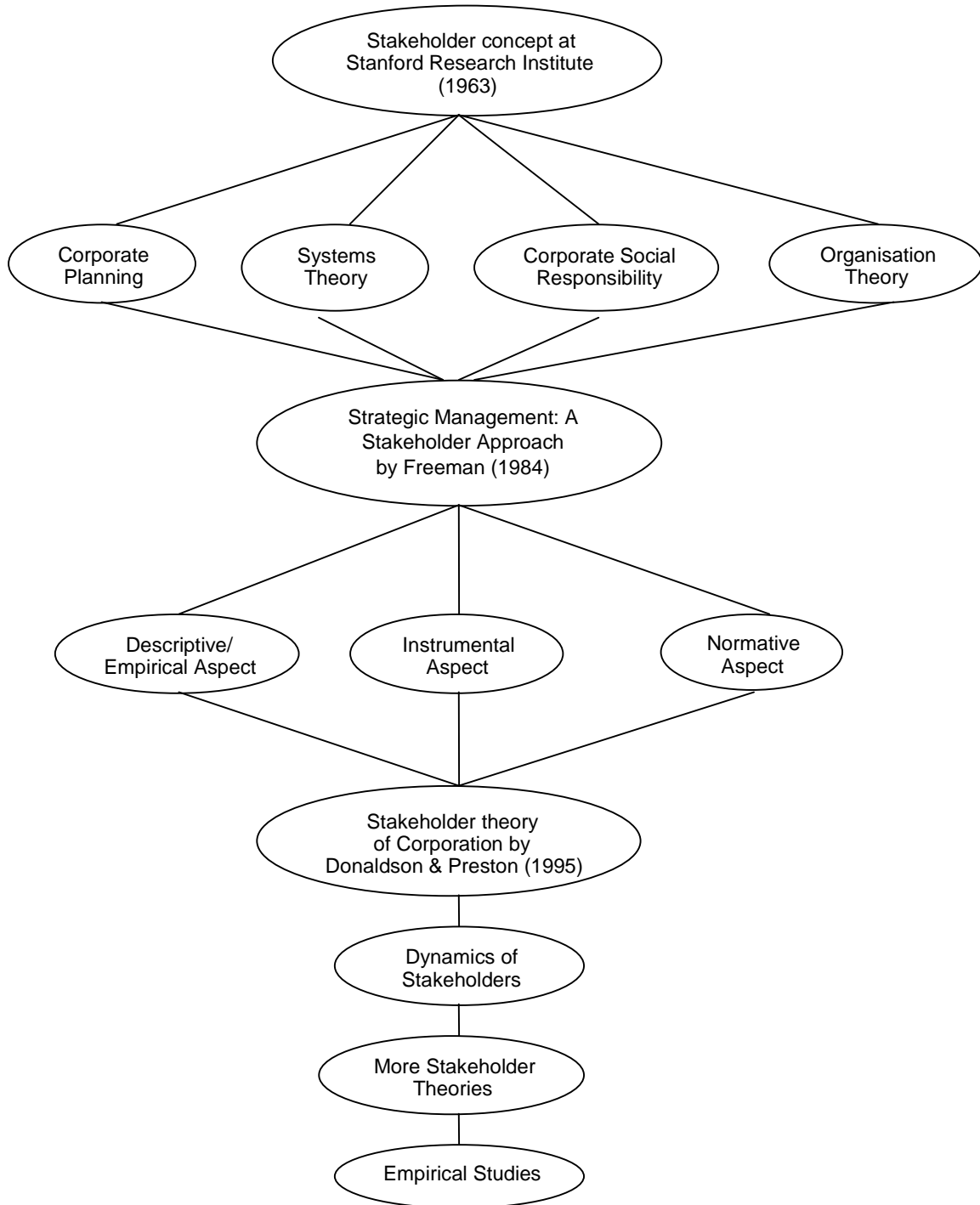

Figure 1: Stakeholder Literature Map

2.1 Classical Stakeholder Literature [1]

The origin of 'stakeholder' in management literature can be traced back to 1963, when the word appeared in an international memorandum at the Stanford Research Institute (cited in Freeman [5]). Stakeholders were defined as *'those groups without whose support the organisation would cease to exist'*. The core concept, in other words was 'survival'; without the support of these key groups, the firm will not survive.

During its formative stage, stakeholder theory itself had to fight for survival, when Ansoff (1965) in his classic book 'Corporate Strategy' argued for the rejection of stakeholder theory. According to him 'responsibilities' and 'objectives' were not synonymous but were made one in stakeholder theory.

By the 1970's stakeholder concepts began to surface in the strategic planning literature. Taylor (1971) predicted that the importance of stockholders would diminish and that, in the 1970's, businesses would be run for the benefit of other stakeholders too. King and Cleland (1978) came up with a method of analysing stakeholders in project management. Hussey and Langham (1978) developed a model of the organisation and its environment with stakeholders and used it in the corporate planning process.

Systems theorists also contributed to the development of the stakeholder literature in the 1970's. Ackoff (1974) developed a methodology for stakeholder analysis of organisational systems. He argued that stakeholder participation is essential for system design and the support and interaction of stakeholders would help in solving many societal problems. Churchman (1968) also contributed by developing systems theory to address social issues in an open systems point of view. The systems model of stakeholders emphasised participation and argued that problems should not be defined by focussing or analysis, but by enlarging or synthesising.

Many researchers were also concerned with the social responsibility of business firms. Post (1981) categorised the main lines of research in this area, covering many ideas, concepts and techniques (Sethi, 1971; Votaw & Sethi, 1974, Preston, 1979). The distinguishing feature of this literature is that the concept was used to include non-traditional stakeholders who were having adversarial relationships with the firm. The sub discipline of management called 'business and society' developed by researchers at the School of Management at Berkley (Votaw, 1964; Epstein, 1969) and Harvard Business School (Ackerman, 1975; Murray, 1976) argued for responsiveness instead of responsibility.

In the organisation theory literature, Rhenman (1968) used the term stakeholders explicitly to designate the individuals or groups which depend on the company for the realisation of their personal goals and on whom the company is dependant. Pfeffer and Salancik (1978) constructed a model of organisation -environment interaction and claimed that the effectiveness of an organisation derives from the management of demands, particularly the demands of interest groups.

Thus, classic stakeholder theory originated on the concept of survival, falls into four groups namely, corporate planning, systems theory, corporate social responsibility and organisational theory [5].

2.2 Strategic Management: A Stakeholder Approach

Researchers in the stakeholder field differ in their worldview on stakeholder concepts, but most of them acknowledge Freeman's [5] book 'Strategic Management: A

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[1] All references in Classical Stakeholder literature section can be obtained from Freeman [5].

Stakeholder Approach' as a landmark in stakeholder literature. In his book, Freeman defines stakeholders as *'any group or individual who can affect or is affected by the achievement of the firm's objectives'*.

He proposed a framework, which fits three levels of stakeholder analysis - rational, process and transactional. At the rational level, an understanding of 'who are the stakeholders of the organisation' and 'what are their perceived stakes' is necessary. As a technique, Freeman uses a generic stakeholder map as a starting point. It is also possible to prepare a stakeholder map around one major strategic issue. As the next step, a stakeholder chart is prepared by identifying specific stakeholders based on the stakeholder map. Further, the stakes of the specific stakeholder groups is identified and analysed. He also uses a two dimensional grid as an analytical device to depict an organisation's stakeholders. The first dimension categorises stakeholders by interest or stake and the second dimension is in terms of power. He makes the grid more realistic by improving on the classical stakeholder grid to prepare a real world stakeholder grid.

At the process level, it is necessary to understand how the organisation either implicitly or explicitly manages its relationships with its stakeholders, and whether these processes fit with the rational stakeholder map of the organisation. According to Freeman, existing strategic processes that work reasonably well could be enriched with a concern for multiple stakeholders. For this purpose, he uses a revised version of Lorange's schema for strategic management processes.

At the transactional level, we must understand the set of transactions or bargains among the organisation and its stakeholders and deduce whether these negotiations fit with the stakeholder map and the organisational processes for stakeholders. According to Freeman successful transactions with stakeholders are built on understanding the legitimacy of the stakeholder and having processes to routinely surface their concerns.
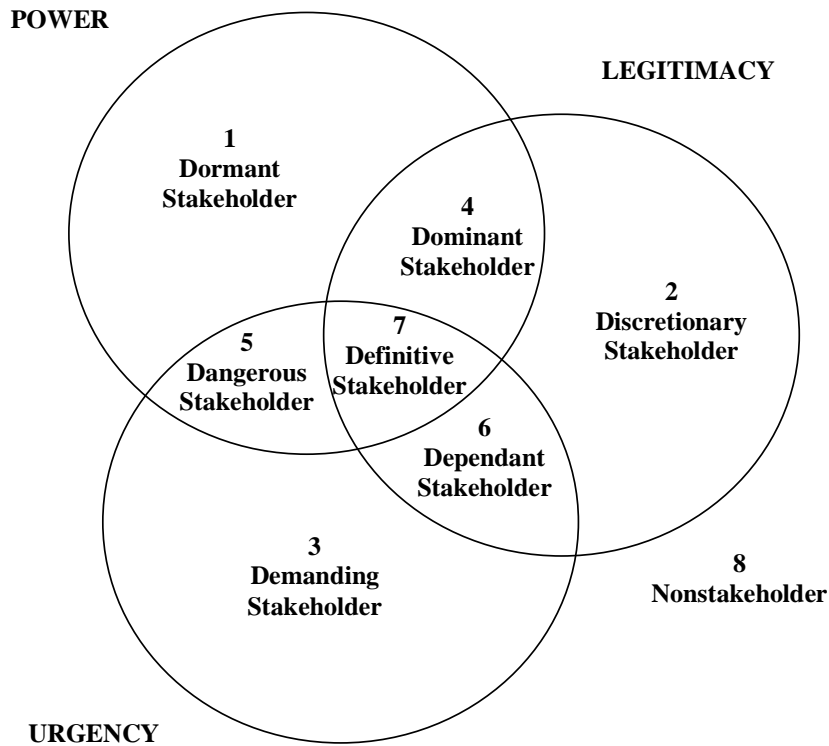
Broadly, the emphasis of Freeman's book is to construct an approach to management that takes the external environment into account in a systematic way. He provides a solid theoretical basis for the understanding of the stakeholder concept and paved the way for extensive future research in the field.

2.3 Dynamics of Stakeholders

Another interesting characteristic of the stakeholder concept is the dynamics of stakeholders. Over time, the mix of stakeholders may change. New stakeholders may join and wish to be included in any considerations, while others may drop out, through no longer being involved in the process.

The concept of the dynamics of stakeholders was acknowledged by Freeman [5], and according to him, in reality stakeholders change over time, and their stakes change depending on the strategic issue under consideration. Alkhafaji [2] also contributed to the understanding of this concept. To explain the dynamics, he defined stakeholders as the 'groups to whom the corporation is responsible'.

Another notable work on this concept was by Mitchell, *et al* [7]. They proposed that classes of stakeholders can be identified by the possession or attributed possession of one or more of three relationship attributes: power, legitimacy and urgency. By including urgency as an attribute, a dynamic component was added to the process whereby stakeholders attain salience in the minds of managers. By combining these attributes they generated a typology of stakeholders.

Figure 2 diagram labels:

POWER

LEGITIMACY

1
Dormant
Stakeholder

4
Dominant
Stakeholder

2
Discretionary
Stakeholder

5
Dangerous
Stakeholder

7
Definitive
Stakeholder

6
Dependant
Stakeholder

3
Demanding
Stakeholder

8
Nonstakeholder

URGENCY

Source: Mitchell, et al. [7], Figure 2, p874.

Figure 2: Stakeholder Typology

According to their typology (Figure 2), if a stakeholder possesses only one of the three attributes, they are termed Latent stakeholders and have low stakeholder salience. If the only attribute present is power, such stakeholders are called Dormant stakeholders; if it is only legitimacy, they are called Discretionary stakeholders and if only urgency, they are called Demanding stakeholders. Stakeholder salience will be moderate, if two attributes are present and such stakeholders are called Expectant stakeholders. Among the expectant stakeholders, those having power and legitimacy only are called dominant stakeholders; those having legitimacy and urgency only are called Dependent stakeholders and those having power and urgency only are called Dangerous stakeholders. Stakeholder salience will be high where all the three attributes are perceived by managers to be present in a stakeholder and they are called Definitive stakeholders. Further the dynamic qualities were illustrated by showing how stakeholders can shift from one class to another, when the salience of stakeholders increase/decrease by attaining/loosing one or more of the attributes. Later, Agle *et al* [1] confirmed the model by empirically testing Mitchell *et al* [7] theoretical model.

The dynamics of stakeholders is a very interesting and important aspect of the stakeholder concept. Further research and empirical studies are required to get a better understanding and to gain deeper insight of this area.

3. Systems Thinking And Modelling

Systems methodology or the systems approach refers to a set of conceptual and analytical methods used in systems thinking and modelling. The development of a systems thinking and modelling intervention involves five major phases (Maani and Cavana, [6], p16) as shown in Figure 3.

	Phases
1	Problem Structuring
2	Causal Loop Modelling
3	Dynamic Modelling
4	Scenario Planning and Modelling
5	Implementation and Organisational Learning

Figure 3: Framework for Systems Thinking and Modelling

We would like to propose that a well structured stakeholder analysis along with the active interaction of stakeholders would enrich the different phases of the systems thinking and modelling process. However in this paper, we would like to draw attention to the usefulness of stakeholder analysis in the 'problem structuring' and 'scenario planning & modelling' phases.

3.1 Problem Structuring

In the problem structuring phase, the situation or issue at hand is defined and the scope and boundaries of the study are identified. This is the common first step in problem solving approaches. The problem-structuring step consists of the following steps (Maani and Cavana, [6], p17).

1. *"Identification of the problem area or policy issues of concern to management. This step requires that we clearly establish the objectives, taking into account multiple **stakeholders** and perspectives.*
2. *Collection of preliminary information and data including media reports, historical and statistical records, policy documents, previous studies and **stakeholder** interviews."*

3.2 Scenario Planning and Modelling

In this phase, policies and strategies are tested under varying external conditions. This is referred to as scenario modelling. In Maani and Cavana [6], the method used to construct scenarios is based on the approach outlined by Schoemaker [8]. Schoemaker provides a 10 step method, which explicitly refers to stakeholders in steps 2 and 8:

*"Step 2: Identify the major **stakeholders** or **actors** who would have an interest in these issues, both those who may be affected by it and those who could influence matters appreciably. Identify their current roles, interests and **power** positions.*

*Step 8: Assess the revised scenarios in terms of how the key **stakeholders** would behave in them. Where appropriate, identify topics for further study that would provide stronger support for your scenarios, or might lead to revisions of these **learning** scenarios."*

4. A New Zealand Case Study

In this case study we will explain how a systematic stakeholder analysis could be conducted for a supermarket. This supermarket, located in Wellington was facing an issue of declining market share during the last couple of years.

Based on this strategic issue, it is possible to develop a stakeholder map of the organisation. The stakeholder map of this Wellington supermarket with respect to the strategic issue is shown in Figure 4.
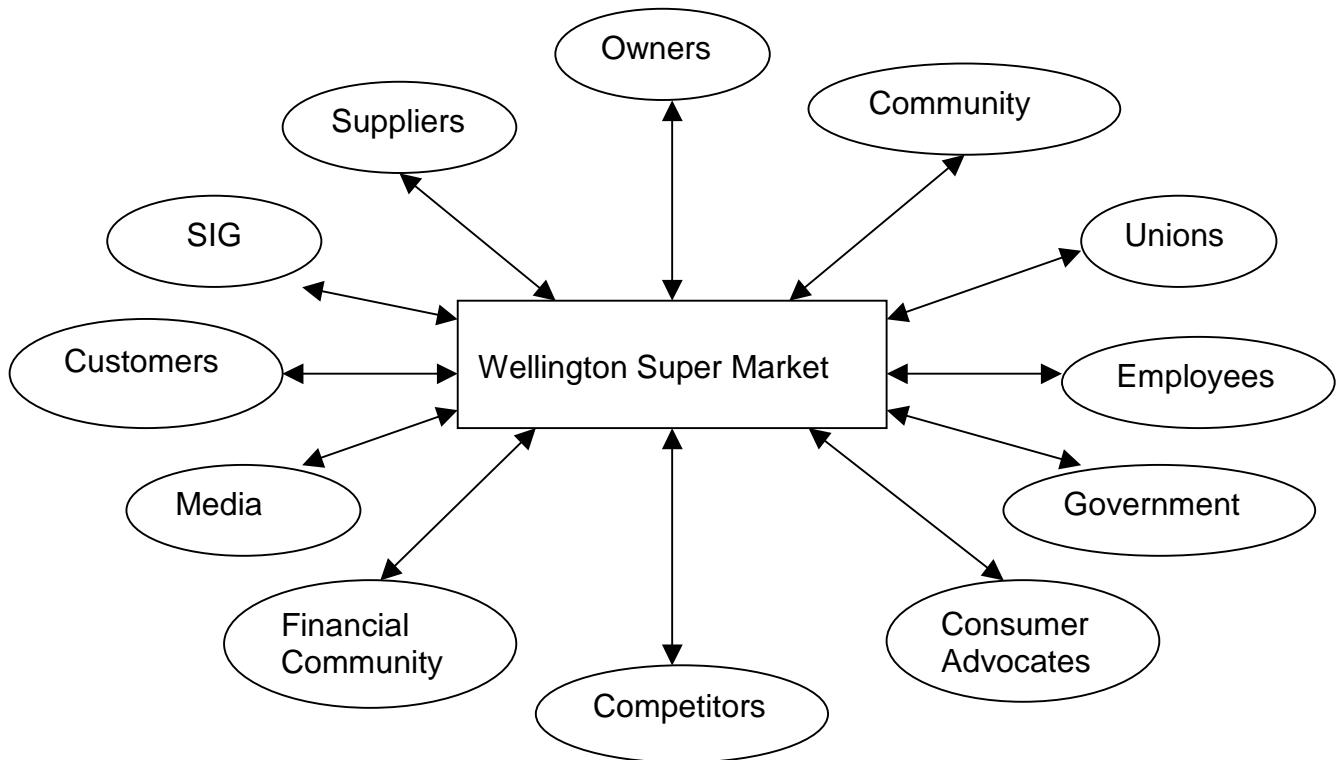

Figure 4: Stakeholder Map of Wellington Supermarket

As the next step, a stakeholder chart for the Wellington supermarket was prepared by identifying specific stakeholders based on the stakeholder map. This is shown in Fig. 5.

Owners	Community	Unions
Private shareholders	Local community Wider community	NZ store & warehouse employees union Central amalgamated workers union National distributors union
Employees Managers Office staff Counter staff Shelf fillers Other staff	**Government** Ministry of Economic Development Labour Department Inland Revenue ACC Regional Council City Council	**Competitors** Countdown food markets Big K supermarket Big Fresh supermarket New World supermarket Pak 'N Save supermarket Woolworth supermarket The Warehouse
Consumer Advocates Consumers Institute	**Financial Community** Commercial banks	**Media** TV Channels Radio stations Wellington and local newspapers
Customers Local community Wider community Other businesses (e.g. dairies)	**Special Interest Groups** Neighbourhood protection groups Environmental groups	**Suppliers** Large producer companies Distributor companies Direct vendors Contractors

Figure 5: Specific stakeholders of Wellington Supermarket

Further, the stakes of the specific stakeholder groups is identified and analysed. In Figure 6 we have shown the stakes of some selected stakeholders of this Wellington supermarket.

Private shareholders	Local Community	New world supermarket
Growth and income Profit	High users of product Product quality Product variety Price Monthly budget	Market Share Price Product variety
Managers	**Shelf fillers**	**Consumers Institute**
Salaries Jobs and Job security Discounts, benefits and bonuses Career	Wages Jobs and Job security Staff discounts	Safety of products Quality of products Price Misleading advertisements

Figure 6: Stakes of Selected Stakeholders in Wellington Supermarket

A two dimensional grid as an analytical device could be developed to depict an organisation's stakeholders. The first dimension categorises stakeholders by interest or stake and the second dimension is in terms of power. In Figure 7 we present the power versus stake grid for some selected stakeholders of the Wellington Supermarket.

Power Stake	Formal Or Voting	Economic	Political
Equity	Private shareholders		
Economic	Commercial bank	Inland Revenue Dept.	
Influencers			Consumers institute

Figure 7: Stakeholder Grid for selected stakeholders of Wellington Supermarket

After analysing the stakeholders systematically, as explained above, it is also possible to understand the dynamics of stakeholders using the stakeholder typology model as shown in Figure 3.

5. Conclusions

In this paper we have presented a review of the stakeholder literature. In particular we have considered developments in classical stakeholder analysis, the stakeholder approach to strategic management and the dynamics of stakeholders. We have then provided an overview of the main phases of the systems thinking and modelling approach to systems interventions and highlighted the phases which we believe would benefit from the rigorous approach to stakeholder analysis outlined in this paper. These include the 'problem structuring' and 'scenario planning and modelling' phases in particular. Finally we have presented a brief New Zealand case demonstrating the relevant steps of the type of stakeholder analysis that would be appropriate in systems thinking and modelling interventions.

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