The research–policy nexus

Mapping the terrain of the literature

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1. Introduction

As a field of inquiry, the relationship between research and policy formulation, implementation and evaluation is well established, particularly in the USA and other developed countries. There is a wide-ranging literature available which documents the findings of empirical studies in a variety of disciplinary contexts, and which attempts to theorise and explain the complex interaction of factors that have a bearing on how and the extent to which research influences or impacts on the policy-making process. The focus on these issues within developing country contexts – particularly the African context – is only recently gaining attention.

The application of social science to the solution of social problems is not a new idea. Erik Albæk, for instance, notes that Auguste Comte, one of the founders of modern sociology, believed 'that the power to govern should be given to the so-called "positive priesthood" of modern society, i.e. the scientists' (Albæk 1995: 79). There appears to be broad consensus in the literature, however, that the most significant emphasis on the use of research to solve social problems emerged in the developed world after the Second World War. In the aftermath of the war, the US federal government invested enormous sums of money into technological development (especially for defence and space exploration), as well as into the development, implementation and evaluation of social policies and programmes aimed at alleviating growing national problems such as poverty, hunger and unemployment (Backer 1991; Bailey & Mouton 2005; Glover 1993; Lindquist 2001; Patton 1997; Weingart 1999). As Carol Weiss (1977a: 4) once observed about this period:

There was much hoopla about the rationality that social science would bring to the untidy world of government. It would provide hard data for planning … and give cause-and-effect theories for policy making, so that statesmen would know which variables to alter in order to effect the desired outcomes. It would bring to the assessment of alternative policies and knowledge of relative costs and benefits so that

decision makers could select the options with the highest payoff. And once policies were in operation, it would provide objective evaluation of their effectiveness so that necessary modifications could be made to improve performance.

The focus on the use of research for the improvement of social life continued to grow with the emergence of the so-called 'knowledge society'. By the end of the 20th century, many governments, multinational agencies, philanthropic foundations and non-governmental organisations had recognised and formalised the need or imperative to use research to inform policy and practice. Philip Davies (2004: 1), for instance, argues that a key feature of the Blair administration's modernisation of the British state machinery was 'a commitment to evidence-based policy'. Within the context of international development, Julius Court and John Young (2006: 1) note that since the publication of Knowledge for Development, the 1998/1999 World Development Report, there has 'been a greater acceptance that generating knowledge (i.e. research) is one key part of the efforts to reduce poverty'. Similarly, in reference to the development of health policy in Africa, Robert Porter and Irvin Hicks (1995: 3) suggest that 'a lack of relevant technical information is a significant barrier to the formulation of sound health and human resource policy in sub-Saharan Africa'.[1]

Despite this emphasis on using social research as an important component of policy development, implementation and evaluation, there has been widespread recognition over the past few decades that research is seldom used in the ways in

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1   There are many other examples of this in other policy sectors. For instance, Shove and Simmons (1997: 215) observe that in relation to environmental policy, 'debate about the uses of research and interaction between the academic research community and non-academic research users has intensified' since the publication of the UK White Paper on science and technology in 1993. Julian May (2003:1) wrote about poverty research: 'The Poverty Reduction Strategy Paper (PRSP) process being engaged in by over 60 countries has again reaffirmed the importance of adequate diagnostic analysis for poverty reduction and need for mechanisms that translate such analysis into pro-poor policies.'

which researchers and policy-makers[2] hope and expect. Some observers have gone as far as suggesting that applied social research (e.g. policy analysis and evaluation studies) has failed dismally in reaching the objective of providing a sound basis for the policy-making process (see, for example, Patton 1997).

The story of the development of the research-policy field of inquiry is one which begins with the somewhat naïve assumption on the part of researchers that social research findings were being utilised in the policy-making process. The expectation on the part of researchers and analysts was that, as Porter and Hicks (1995: 4) put it, if they 'had something relevant to say they would be listened to, and that their conclusions and recommendations would have a rather direct impact on policy'. However, studies into utilisation conducted in the 1970s, primarily in the USA, came to the conclusion that there was little evidence of the direct or immediate use of research in government policy- and decision-making processes.

Not surprisingly, attention then turned to investigating the processes of utilisation and policy-making in order to identify the reasons why there was such limited utilisation. Early theories of non-use focused on the interaction (or lack thereof) between researchers and policy-makers, and misconceptions by both parties about the processes involved. These studies identified more diffuse, indirect uses of research (or research influence). Later, scholars within the research-policy field sought more detailed understanding of the nature and dynamics of the research-policy link, including the impact of broader contextual factors, such as the political or organisational environments within which research and policy-making take place.

Today, theories and explanations of research-policy linkages paint a much more complex picture – one that takes into account a range of factors on both the research and policy sides of the equation, as well as the interactions between the two in a variety of contexts.

1.1 Aim and scope of this review

This literature review was conducted as part of a larger research programme into the relationship between higher education and development currently being undertaken by a network of researchers in Africa and Europe. The research programme forms part of the Higher Education Research and Advocacy Network in Africa (HERANA) coordinated by the Centre for Higher Education Transformation (CHET). The main aim of the HERANA programme is to develop a network of higher education expertise in Africa that will provide evidence-based information about some of the crucial links between higher education and development (economic and democratic). The advocacy component aims to drive the dissemination, communication and utilisation of the research emanating from the network.[3]

The primary purpose of this paper is to provide a foundation of ideas and perspectives, a common ground if you like, for the identification of one or more research projects that focus on the interface between the production of knowledge on the one hand, and its utilisation in the formulation, implementation and evaluation of policy, on the other. As such, the aim of the review is twofold:

1. To 'map the terrain' of the literature that pertains to the research-policy nexus
2. To provide an overview of the main issues and themes that emerge in this literature.

Mapping the terrain of the literature requires one to throw the net quite widely in order to be comprehensive and understand the bigger picture. Inevitably, though, one also has to be selective and set limits on how much to cover, and in what level of detail.

The literature relating to what is here being termed 'the research-policy nexus' is varied and extensive. There is a relatively substantial body of literature that focuses on this nexus specifically – in other words, both empirical and theoretical work

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2   The terms 'policy-makers' and 'decision-makers' are used interchangeably in this review since these terms are seldom defined and are used interchangeably in the literature. See Mayda (1999) who argues that such conflation of terms is problematic when undertaking utilisation studies because it blurs or collapses two distinct elements of the policy-making process.

3   For further information on the HERANA projects, visit www.chet.org.za/programmes/ herana/

that addresses the interface between knowledge production (research) and policy-making – as well as the nature and extent to which research is used to make policy decisions (generally referred to as 'utilisation studies'). The literatures that relate to these two areas of activity are also pertinent in many ways, as is broader, contextual literature relating to, for example, the interaction ('contract') between science and society (science studies or the sociology of science), and other political and historical aspects. The literature also talks to the wide variety of factors that are seen to impact on or influence utilisation. These factors arise at individual, organisational, institutional, disciplinary, national/systemic and international levels.

The backbone of this review is built on the literature that talks directly to the research-policy nexus. To a lesser extent, it also ventures into some of the other domains outlined above, including those relating to the separate spheres of knowledge production and policy-making, and the broader social, economic and historical dimensions. Other related areas of the literature have however been excluded altogether, primarily on the basis that they are a step too far away from the immediate purpose of the review. These include empirical work relating to evidence-based practice (as opposed to policy); the knowledge management literature pertaining to organisations; and 'lessons learnt' or recommendations for what works as well as 'how-to guides'. Given that this review seeks to provide a foundation of ideas and perspectives on the research-policy nexus, there is no detailed discussion of the manifestations of this interface in different disciplinary contexts, knowledge fields, policy sectors or countries, although some indication of these does emerge in the general discussion.

For the purposes of this review, 'research' has been defined very loosely. If there has been any tendency, it has been towards academic research (i.e. research undertaken in academic settings such as universities and led by academics), research that is co-produced with intended beneficiaries (e.g. action research), research conducted in research organisations (governmental, non-governmental, private, international agencies, etc.) and think tanks. All forms of social science research are included,

from empirical studies (surveys, case studies, experiments, policy analysis, participant observation, evaluation) to non-empirical studies (syntheses, literature reviews, theory-building). From a disciplinary perspective, the focus is primarily on research that has social consequences (rather than technology development), which usually means social science research but also includes economic and health-related research, or even agriculture and biotechnology research.

With regard to the notion of '*policy*', the general focus is on public policy (versus policy made by private corporations); that is, policy that is made by governments or government bodies, but also by international organisations, bilateral agencies and non-governmental organisations.

The review begins by exploring the development of ideas about research 'use' and 'utilisation' and the policy-making process roughly over the period from the 1970s to present day. The paper then turns to a discussion of the various factors that have been identified through empirical research as impacting on or influencing the nature of, and extent to which, research ideas or findings are taken up in the policy process. The issues raised in relation to the processes of knowledge production and policy-making, and the interaction of the various actors in the interface between these processes, are contextualised and discussed in the developing country and African contexts. The review concludes by providing an overview of some of the conceptual, theoretical and analytical frameworks for investigating the research-policy nexus that have been developed in recent years, and highlights some of the methodological challenges associated with undertaking studies of this kind.

2. The development of ideas about 'use' and 'utilisation'

2.1 Early assumptions about 'use': Ideas prior to the 1970s
As highlighted in the introduction to this review, prior to the utilisation studies of the 1970s, social scientists simply assumed that their research would in one way or another be

taken up within the policy-making process. The link between research and policy was assumed to be a direct and linear one, from researchers to policy-makers. In addition, there was considerable faith in the 'objective' and 'valid' basis of the social scientific method (the positivism or empiricism of the 19th century) on the one hand, and the 'rational' basis of the policy-making process on the other. As Martin Bulmer once observed, the objectivity of the social science method was seen as the only way of overcoming the weaknesses perceived to be inherent in the policy-making process:

The predominant tone was to stress the practical usefulness of research, its essentially commonsensical and empiricist character, and to strike a note of optimism that research would be a means of overcoming the 'ignorance' and 'prejudice' of politicians and administrators. (Bulmer 1982, in Bailey & Mouton 2005: 19)

According to Bulmer (1982), the manner in which social science developed in the UK and the USA gave rise to different approaches and emphases in relation to the use of social science research to inform policy-making.
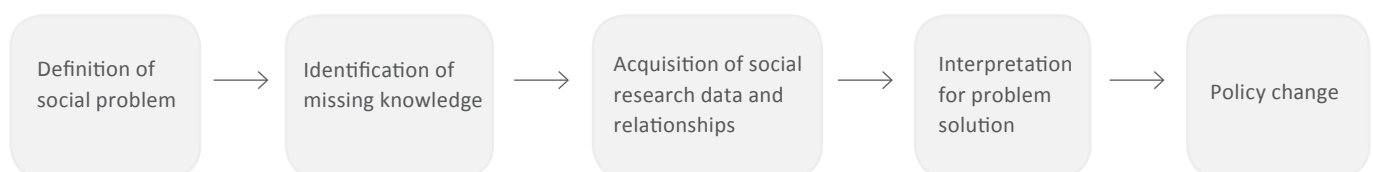
In the UK in the 19th century, social research was largely empiricist in nature. The assumption about the relationship between social research and policy-making was that researchers would produce social 'facts', which, when fed into the policy-making process, would provide an empirical basis on which policy-makers would make decisions about policy (Lester & Wilds 1990). In the **'empiricist' model**, the choice of which social 'facts' to produce was the choice of the researcher. These facts were fed in a unidirectional manner from researcher to policy-makers. This model of utilisation has also been referred to as

'knowledge-driven' since it sees the movement of knowledge from researcher to policy-maker from basic research to applied research, development and application (Ginsburg & Gorostiaga 2001). Bailey and Mouton (2005: 21) note that while this model has been widely criticised and either adapted or abandoned, this form of utilisation 'is still evident in the activities of government statistical services around the world today'.

While the British tradition of social science research emphasised the production of social 'facts', social science in the USA also brought the explanatory power of social science theory to bear on policy problems (Bailey & Mouton 2005). Modelled on the engineering sciences, the so-called **'engineering model'** of utilisation emphasised the problem-solving role of the researcher: the researcher as technician or social engineer would apply existing knowledge and theory to the solving of social problems. Bulmer described the basic premise of the engineering model as follows:

The model is a linear one. A problem exists; information or understanding is lacking either to generate a solution to the problem or to select among alternative solutions; research provides the missing knowledge; and a solution is reached. Typically a single study will be involved. This – with its data, analysis and conclusions – will affect the choices that decision-makers face. Implicit in such an approach is agreement upon ends. It is assumed that policy-makers and researchers agree upon what the desired end-state should be. The role of research is to help in the identification and selection of appropriate means to reach that goal. (Bulmer 1982, in Bailey & Mouton 2005: 21)

Bulmer's (1982) version of the engineering model can be depicted as follows:

Definition of social problem → Identification of missing knowledge → Acquisition of social research data and relationships → Interpretation for problem solution → Policy change

The engineering model was based on the assumption that the policy-making process is rational and this was matched to the positivist assumptions about social science at the time (Bailey & Mouton 2005). To this extent, the engineering model was adopted by the US public administration in the 1960s and 1970s. It was later adopted in the UK after the publication of the Rothschild Report (1971) which drew a distinction between basic and applied research and which emphasised that applied social research for government should take place on a client basis (i.e. contract research) (Bailey & Mouton 2005; Waterton 2005).

This conception of utilisation has also been referred to as the **'problem-solving model'**, which begins with a policy problem, is followed by the identification of pre-existing research or the commissioning of new research to fill the knowledge gap, the transfer of information from the research domain to the policy arena, and results in a solution to the problem (Elliott & Popay 2000; Ginsburg & Gorostiaga 2001).

This orientation to the research/policy interface assumes a clearly defined place for research, at the heart of the policy making process. The relation between the researcher and the policy maker is one of customer and client. (Elliott & Popay 2000: 462)

Embedded in these models of utilisation is the notion of **'instrumental use'**. Instrumental use, as suggested by the empiricist and engineering models, 'refers to cases where the knowledge of a single study induces users to make decisions that would not have been made otherwise' (Landry *et al*. 2001: 336). Such use is based on a number of assumptions about the nature of research findings and the policy process, including, for example: that the research findings are of direct relevance to a decision that needs to be made; that they are available before the decision needs to be made; that they are clear, unambiguous and can be applied to feasible action; that they are not transformed in any way when they move into the policy-making domain; that decision-makers are aware of the findings and can understand them; that resources are available to implement them; and,

that they do not conflict with the interests of those in power (Gornitzka 2003: 135; Weiss & Bucuvalas 1980). As we will see in the next section, the empirical utilisation studies of the 1970s drew into question some of the assumptions upon which these models and conceptions of use were based.

2.2 The utilisation studies of the 1970s
With all the emphasis on the use of research knowledge, a number of studies[4] into the extent to which research is utilised in the policy-making process were conducted in the 1970s, predominantly in the USA. The resounding conclusion drawn by these early studies was that there was **little evidence of the direct or immediate use of research** in government policy- and decision-making processes, as suggested by the empiricist or engineering models (Glover 1997; Lester & Wilds 1990; Neilson 2001; Porter & Hicks 1995). According to Erik Albæk:

Just a few years after evaluation and policy research took the American corridors of power and administration by storm, it became depressingly clear that one could only rarely and with difficulty prove that research had exerted any specific influence or had any beneficial effect on the policy that was implemented. (Albæk 1995: 82)

Two important developments followed from this revelation: first, there was further investigation and theorising about why research was not being utilised; second, alternative, broader ways of defining 'use' and understanding utilisation were developed.

Theories and explanations for 'non-use'
In the late 1970s and early 1980s explanations for non-use centred around two inter-related concerns: the perceived 'mismatch' between the worlds of the researcher and the policy-maker, and the 'misconceptions' on the part of both researchers and policy-makers about the nature of the processes involved. The work of CP Snow (1959, 1964) is often quoted as having produced the initial ideas in this regard – specifically his notion

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4   Especially Caplan (1979), Knorr (1977) and Weiss (1977a); but also, for example, Bruce-Briggs (1978), Bulmer (1982), Caplan *et al*. (1975), Lee and Staffeldt (1977), Lindblom and Cohen (1979), Lynn (1976), Rein and White (1977), Rich (1981), Seidman (1977), Weiss (1977b), Weiss (1980).

of the 'two cultures' of researchers and administrators within the British government at the time (Gornitzka 2003). However, the focus of Snow's work was not on the relationship between research and public policy per se; rather, it focused on the challenges of drawing on science and technology in the making of public policy, primarily because British bureaucrats and civil servants were educated in the humanities and thus had different 'attitudes, standards and patterns of behaviour, approaches and assumptions' than the hard scientists did (Gornitzka 2003: 131).

In 1979, Nathan Caplan coined the term **'two-communities'** to describe his theory of non-use of research in policy-making. For Caplan, non-use was 'a symptom of the cultural, or behavioural, gap between researchers and policy makers' (Neilson 2001: 3). This 'gap' between policy researchers and policy-makers has been described in different ways, including differences in worldview, belief systems, values, orientations and expectations, as well as language, reward systems, and social and professional associations (Lester & Wilds 1990; Neilson 2001). The relationship between the two was also characterised by animosity and distrust (Gornitzka 2003). The following quotation from a theorist at the time talks to these perceived differences:

The 'two communities' hypothesis explains under-utilization of research by depicting social scientists and policymakers as living in separate worlds. The differences make for wide divergences in expectations, in perceptions of mutual impact as well as difficulties in achieving satisfactory and constructive relationships. ... [The] structure of incentives within the academic community has also driven a wedge between social scientists and policymakers. These incentives attach greater weight to knowledge-building as against policy-forming research; to authoritativeness rather than usefulness; to the pursuit of rigor as against relevance; to the values of scientific independence as against the virtues of policy involvement; and to understanding rather than action. (Booth 1988, in Neilson 2001: 4,6)

Observers such as Martin Bulmer (1982) and Erik Albæk (1995) suggested that the reason why research was not utilised in policy-making in the way that the engineering model envisaged was, in part, owing to a misunderstanding on the part of both researchers and policy-makers of the processes involved:

[The engineering model] misunderstands the policy-making process, fails to take account of the complex processes by which decisions are reached, exaggerates the role of the 'decision-maker' for whom research is carried out and gives unwarranted authority to the research input which the policy researcher provides. The results of policy research lack the degree of conclusiveness which their practitioners claim, either as scientific knowledge or as confirmation of ordinary knowledge. (Bulmer 1982, in Bailey & Mouton 2005: 22)

The issues which emerge in relation to the interaction between researchers and policy-makers and the different processes involved are discussed in greater detail in section 4.

Broadening the notion of 'use'
The investigations by Carol Weiss, Karen Knorr and others in the 1970s gave rise to evidence of other, more diffuse and indirect ways that research found its way into the policy-making process. One such conception is usually conceived in negative terms as the 'misuse of knowledge' (Ginsburg & Gorostiaga 2001: 175) insofar as research is drawn upon in order to justify or legitimise political views or political decisions/choices that have already been made, and to mobilise support in this regard (Gornitzka 2003; Landry *et al*. 2001). This form of use is variously referred to as the **'strategic'**, **'symbolic'** or **'political'** use of research. The 'authority' of science can also be used as a tool to persuade others of the merit of a particular choice or position (Gornitzka 2003). What distinguishes this form of use from instrumental use is, amongst others, that the use of research often takes place after a decision has been made or a policy developed and, as such, does not have a direct influence on the content of the decision (ibid..). The strategic use of research is linked to the more political (rather than rational) conceptions of the policy-making process (see section 3.2).

The strategic use of research is, of course, dependent on the confidence of policy-makers and the broader society in scientific

information and expertise which, more recently, has come under question, and on the belief that scientific information is more neutral, value-free and reliable than political arguments (Gornitzka 2003) (see section 4.2 for more discussion of this dimension.)

Another more diffuse notion of the utilisation of research in policy-making is that of **'conceptual use'**. This type of use refers to the way in which academic research can influence policy discourses via the development of new or adapted concepts and language, and, as Stephanie Neilson (2001: 8) puts it, 'describes the gradual shifts in terms of policy makers' awareness and reorientation of their basic perspectives'.

[Conceptual use] refers to cases where knowledge provides new ideas, new theories and new hypotheses conducting to new interpretations about the issues and the facts surrounding the decision-making contexts without inducing changes in decisions. (Landry *et al.* 2001: 336)

Research can also be used for conceptualising and shaping how we see the world, and causal connections that operate within it. … It is a type of use that shapes how decision-makers and even society at large think about societal phenomena and causal connections. Science and research contribute to shaping cognitive paradigms in society. (Gornitzka 2003: 139)

There are numerous examples of how concepts and discourses that emerge within social research have entered the language (and therefore concepts) of the broader society and have influenced policy agendas. Environmental examples include the terms 'biodiversity' and 'greenhouse effects'. Marouani & Ayuk (2007: 8) refer to the concept of 'equality of opportunity' introduced by Amartya Sen in 1992.

Gornitzka (2003: 139–140) suggests that despite the time-lag for concepts to be absorbed into use, in the end, conceptual use 'may have far more lasting and fundamental implications than most instances of single event instrumental use can be expected to have'. She points out that 'scientific disciplines shape the minds of those who undergo higher education'

and that the 'professions are a primary means of "research dissemination" and use' (Gornitzka 2003: 139). (See section 4.2 for a more detailed discussion of the influence of decision-makers' characteristics on information use.)

Carol Weiss encapsulated the essence of this so-called conceptual use in her **'enlightenment model'** of research utilisation. In short, the knowledge generated by social research can 'enlighten' policy-makers and broaden their understanding of the policy context and issues, resulting in gradual shifts in their thinking over time. Weiss described her model as follows:

[Research and analysis influences actors'] conceptualization of the issues with which they deal; it affects the facets of the issue that they consider inevitable or unchangeable or amenable to policy action; it widens the range of options which they consider; it challenges some taken-for-granted assumptions about appropriate goals and appropriate activities. Often it helps them make sense of what they have been doing after the fact, so that they come to understand which courses of action they have followed and which courses of action have gone by default. Sometimes it makes them aware of the over-optimistic grandiosity of their objectives in light of their meager program resources. At times it helps them reconsider … entire strategies of action for achieving wanted ends… In sum, policy studies – and social science research more generally – have made highly significant contributions by altering the terms of policy discussions. (Weiss 1982, in Porter & Hicks 1995: 4)

Weiss introduced the notions of **'knowledge creep'** and **'knowledge percolation'** to describe the manner in which research findings or concepts slowly filter into policy (and other) discourses by introducing new terms or concepts, by identifying new or reformulating existing policy problems/areas or by shaping policy discourse. According to Neilson (2001: 10), Weiss saw 'the role of research as clarifying, accelerating and legitimizing changes in opinion' and believed that this might be 'the most important contribution social research can make to the policy process.' David Glover provides the following example of the power of the enlightenment function of research in the Latin American context:

In fact, it could be argued that the most significant contribution of social science research is at the most general level, in the generation of ideas and ideologies. History shows that ideas can be very powerful. The writings of Raul Prebisch had a tremendous influence on Latin American policy makers and led directly to the wave of import substitution that transformed the continent's economic structure in the fifties and sixties. The subsequent implementation of conservative policies had equally far-reaching effects and was also strongly influenced by the intellectual currents of the day. In both cases, ideas took root in an environment and a time when policy makers were receptive to them. (Glover 1993: 9)

Weiss pointed to problem definition as one area that research could have quite a tangible influence on, illustrating how research ideas can bring attention to some issues and remove focus from others: '[Problem definition can] help to turn what were non-problems or private problems into policy issues (such as child abuse), help to convert existing policy issues into non-problems (e.g. marijuana use), [or] drastically revise the way that a society thinks about issues (e.g. acceptable rates of unemployment)' (Glover 1993: 9). Other authors have also noted the role of research or science in setting the agendas of policy-making by drawing the attention of policy-makers to new issues or previously unrecognised problems. Verdier (1984) referred to this as 'structuring the debate' and included the injection of certain social science concepts and methods into the debate (Glover 1993).

2.3 Science as oversight

Finally, in her recent publication, Åse Gornitzka highlights another possible use of research in policy-making, namely 'science as oversight', referring to the way in which organisations use research information as a form of 'knowledge slack' – in other words, a knowledge reservoir which can be used to 'increase the organisation's ability to respond to future changes and events' (Gornitzka 2003: 140). Described by Gornitzka as a way of increasing the general knowledge base of an organisation, this echoes the role of basic research, the aim of which is to extend the existing body of knowledge without any specific reference or link to a specific social or policy problem. Such information could, as Gornitzka (2003) observes, eventually lead to instrumental use.

I now turn to an exploration of the development of ideas about the policy-making process.

Carol Weiss's seven models / definitions of 'use'

1. Knowledge-driven: application of basic research; this model assumes that basic research provides an opportunity for policy-relevant research which can then be applied;
2. Problem-solving: communication of research on an agreed upon problem to the policy maker; this model implies that there is consensus between the researchers and the policy makers on the solution or end-state;
3. Enlightenment: education of the policy maker; that with time the accumulation of research will influence policy by educating the policy maker;
4. Political: rationalization for previously arrived at decision; used by policy makers to bolster support or provide ammunition for opposition;
5. Tactical: requesting additional information to delay action; often used by government agencies or other organizations/institutions as a response to a problem or issue;
6. Interactive: competing information sources; this implies that policy makers are actively searching for policy-relevant information that is not based on social science research; this type of use is considered to be more realistic of how policy makers use information in the policy process.
7. Intellectual enterprise: policy research is just one type of many intellectual pursuits.

Source: Neilson (2001:9)

3. The policy-making process[5] and research use

As alluded to in the previous section, one of the reasons identified for the non-use or under-utilisation of research for policy was misconceptions (on the part of the engineering model, for example) about the nature of the policy-making process itself. In this section of the review, I explore different conceptions of the policy-making process, as well as the assumptions about how research is taken up and utilised in these different models or approaches. Broadly speaking, these understandings of research use for policy can be divided into two broad groups, namely rational and political models. Anne Philpott distinguishes these two positions as follows:

A 'rationalist' point of view is that new research can directly prompt policy change. The 'political camp' on the other hand assume that various external factors play a key part both in defining the question that a research project tackles and in influencing the impact of the answers on policy. (Philpott 1999)
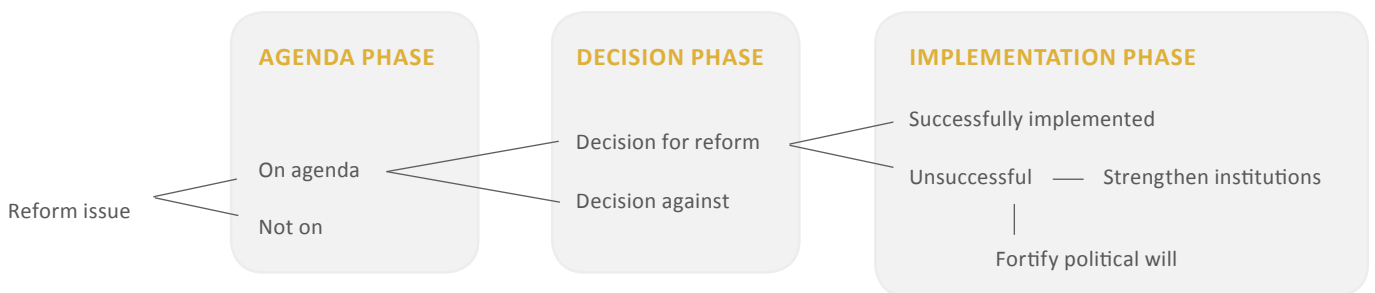
3.1 Rational models
The linear model
The earliest and most pervasive notion of the policy-making process was that it is a linear process involving a number of logical, sequential steps including problem identification/ definition and agenda-setting, policy proposal formulation, formal decision-making, adoption, policy implementation and evaluation (Neilson 2001; Porter & Hicks 1995; Stone *et al*. 2001). In the linear model[6], policy-making is viewed 'as a problem-solving process which is rational, balanced, objective and analytical' (Sutton 1999: 9) and in which political actors make 'calculated choices between clearly formulated alternatives' (Albæk 1995: 81). Diane Stone and colleagues refer to this model as the 'rational-comprehensive model'. Here, 'rational' refers to the logical, sequential steps involved in the policy-making process. The model is 'comprehensive' in the sense that it 'canvases, assesses and compares all options, calculating all the social, political and economic costs and benefits of a public policy' (Stone *et al*. 2001: 5). Indeed, the modern day emphasis on 'evidence-based policy' hinges on this very notion, at least insofar as Philip Davies (1999a, in Davies 2004: 3) defines it as helping 'people make well informed decisions about policies, programmes and projects by putting the best available evidence from research at the heart of policy development and implementation.'

The linear model can be depicted as follows:

AGENDA PHASE

Reform issue — On agenda / Not on

DECISION PHASE

Decision for reform / Decision against

IMPLEMENTATION PHASE

Successfully implemented

Unsuccessful — Strengthen institutions

Fortify political will

Source: Grindle & Thomas 1990, in Sutton 1999: 9

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5 The literature on the policy-making process is vast. Only selected sources have been drawn upon for the discussion that follows – primarily sources that discuss the various approaches to the policy-making process in relation to the utilisation of research.

6 Also referred to as 'policy in stages' by Porter and Hicks (1995: 6).

The engineering model of utilisation and the instrumental use of science correlate with the conception of the policy-making process as rational. Rational models assume that knowledge is neutral or apolitical and 'that decision-makers will be persuaded by the most accurate or scientifically plausible option' (Stone *et al*. 2001: 5). In this regard, Eric Albæk draws a parallel between rational decision-making and positivist conceptions of science:

In rational policy making 'policies are hypotheses' … hypotheses of how means (i.e., given social programs) will lead to desired ends. This process resembles the classical scientific experiment: hypotheses – intervention – effect. Consequently, there should be no problem in using social science research to test policy hypotheses. … In a way there is nothing new in this understanding of the interplay between science and politics. Fundamentally, it is a return to the original Enlightenment notion of a pluralist, reasoned debate which later, in its perverted positivist/rationalist version, was restricted to meaning solely a *rationally* calculated decision. (Albæk 1995: 80–81, original emphasis)

Over the years, this rational, linear model of policy-making came under fire for being an idealised version of reality. For example, it has been noted that policy-makers seldom have the time to assess all sources of research information in order to choose the best option (Neilson 2001). Furthermore, as Diane Stone and her colleagues observed, this is seldom how research is used in policy-making, not least because 'the combination of 'sunk costs' in existing policies, the cost (time and resources) of compiling and assessing information, and the (generally) poor predictive capacity of (social) science result in less than "comprehensive" outcomes from the policy-making process' (Stone *et al*. 2001: 5). Finally, the linear model has been criticised for separating policy-making from implementation. As Sutton (1999: 22) argues: 'This is a major flaw in the linear model because policies often change as they move through bureaucracies to the local level where they are implemented.'

Despite the critiques of the linear model of policy-making, a number of authors suggest that breaking the process down into its component parts assists researchers in coming to grips with the stages and thereby understanding where they are able to make a contribution. Stone *et al*. (2001) refer to three of the stages as being particularly amenable to research 'intervention', namely: agenda-setting, implementation, and monitoring and evaluation.

Critiques of the linear model led to minor revisions which, although addressing some of the problematic areas of the model as a whole, still ascribed to the notion that policy-making is a rational process and draws on information in a rational way. These revisions to the original notion are briefly discussed below.

'Satisficing'
Herbert Simon recognised the limits to rational decision-making. He took as his point of departure that decision-makers had every intention of acting rationally, but, in reality, a 'combination of psychological and organizational imperfections' limits the decision-maker's ability to make fully rational decisions (Albæk 1995: 83). Instead, suggested Simon, decisions are taken which 'satisfy and suffice, but which are not necessarily the best decisions' (ibid.). Simon recognised the diversity of values within an organisational setting, and that the values of the organisation do not always coincide with those of the individuals that make up the organisation. However, he argued that if the organisational values prevail, through 'an authoritative person or group of persons [who] at some point assign an explicit set of values to the decision-making process', rationality would return to the decision-making process (Albæk 1995: 84). This is a more technocratic view of the role of values in decision-making.

Incrementalism
Charles Lindblom viewed decision-makers as essentially conservative and pragmatic. On the one hand, they aim 'to ensure that government can function, cope with pressure-group demands, and deal with crises as they arise'; on the other hand, they seldom have the time or the resources to conduct or consider research to inform the policy-making process (Stone

et al. 2001: 6). Decision-makers aim to reduce uncertainty in the decision-making process and achieve this by making small, incremental changes to policy:

… when confronted with the need to change policy, [decision-makers] attempt to reduce uncertainty, conflict, and complexity by making incremental or marginal changes over time. According to the model, the more uncertainty exists in a given decision situation, the more will incremental strategies be adopted. (Grindle & Thomas 1991, in Neilson 2001: 18)

Although, for Lindblom the policy-making process is essentially one of 'muddling through', rational policy decisions can be taken if large decisions are broken down into smaller ones and are then distributed among a number of actors, each of whom will 'communicate their interests and points of view among each other', making the policy-making process more interactive and manageable (Neilson 2001: 18).

The implications of these characteristics of the policy-making process is that researchers are usually sidelined, since decision-makers are likely to avoid 'costly innovation or departures from routine practice' and, instead, make minor alterations to existing policies (ibid.). Dror (1984, in Stone *et al*. 2001: 6) listed the following implications of incrementalism for researchers:

- 'Incremental policy processes reinforce pro-inertia and anti-innovation forces.
- Creativity is discounted and stifled.
- New ideas or research can be discounted as unrealistic.
- There is low emphasis on developing clear goals and plans.
- Difficult problems requiring radical changes to resolve are ignored.
- Even crucial research findings may be ignored given costly investments in existing policies.
- Political crises (scandals or tragedies) are required before a major re-evaluation of policy occurs.'

Critiques of the incrementalist model point to the fact that the model only focuses on part of the larger policy-making process.

For example, it does not explain how ideas make their way onto the policy agenda; nor does it account for instances of 'crisis-driven' policy where fundamental change can occur (Neilson 2001). Some authors have argued that the incrementalist model is not useful for understanding policy-making in developing countries 'since more often than not these countries experience big, fundamental changes which therefore require a different approach to policy making' (Neilson 2001: 19). The model only really applies to minor changes to existing policies.

Interactive model

In the 1970s, Carol Weiss described a much more interactive model of the research-policy interface:

Within this model research is one of several knowledge sources on which policy makers draw in an iterative process of decision making. Other sources include policy makers' own experience, the press, politicians, colleagues and practitioners. Within this model, the influence that research can have on policy making are diffuse, for example, providing decision makers with fresh perspectives and concepts as well as data. Thus the researcher must jockey for a position of influence within the policy process. (Elliott & Popay 2000: 462)

The interactive model developed by Merilee Grindle and John Thomas (1990) focuses on the implementation phase of the policy-making process and is based on their experience of policy reforms in developing countries:

Unlike the linear model, the interactive model views policy reform as a process, one in which interested parties can exert pressure for change at many points … Understanding the location, strength, and stakes involved in those attempts to promote, alter or reverse policy reform initiatives is central to understanding the outcomes. (Grindle & Thomas 1990, quoted in Neilson 2001: 20)

The interactive model is based on the following propositions (Neilson 2001: 21):

- 'Decision-makers are not fully constrained by the interests of social classes, organised societal interests, international actors or international economic conditions, but have space for defining the content, timing and sequencing of reform initiatives.
- Decision-makers often have articulate and logical explanations for the problems they seek to resolve based on their experience, study, personal values, ideology, institutional affiliation or professional training.
- Decision-makers might alter their perspectives on what constitutes preferred or viable policy options in response to experience, study, values, ideology, institutional affiliation and professional training.
- Decision-makers often take active and formative roles in shaping reforms to make them politically acceptable to divergent interests in society or in government.
- Bringing about changes in public policies and institutions is a normal and ongoing aspect of government and a normal and ongoing function of many officials.'

The interactive model requires understanding of two key factors: the characteristics of the policy elite and the broader context within which they operate. Although this model brings the external context into focus as impacting on the policy process, it falls within the ambit of rational models because it still assumes that 'research is used directly in the policy making process' (Neilson 2001: 21).

3.2 Political models

The rational models of policy-making outlined above have been criticised for being unrealistic and unrepresentative of people's experience of the process (Albæk 1995; Stone *et al.* 2001: 10). Grindle and Thomas (1991, in Neilson 2001: 19), for example, argue that rational models 'provide little insight into how societal interests, historical experiences, ideologies, values, alliances, and other factors penetrate the world of decision makers and shape or even determine decisional outcomes'.

These early ideas about the policy-making process as rational problem-solving gave way to other more textured notions, including decision-making as a political bargaining process, characterised by conflicting interests and limits on rationality:

First, the decision-making process can be seen as involving multiple actors with inconsistent preferences, i.e. decision-making is a political bargaining process … where transactions between actors with different interests result in strategic use of research. Second, there are limits to rationality in decision-making … so that research information is transacted and transformed in the hands of decision-makers. (Gornitzka 2003: 137)

Other authors have characterised policy-making as a much messier and chaotic process than the rational models suggest, involving a much wider range of actors than formal decision-makers. The following are considered alternative approaches to the understanding of the policy process.

The garbage-can model

Cohen *et al.* (1972) were possibly the first to coin the term 'garbage-can model' to describe the policy-making process, which was later taken up by theorists such as John Kingdon. In direct contrast to the ordered basis of the rational models, the garbage-can model depicts the policy-making process as chaotic, fragmented and far more political than rational. Rather than calculated, optimum solutions being matched to policy problems, the garbage-can metaphor suggests that 'decisions are made as if decision-makers reach into a garbage can – drawing a problem with one hand and a solution with the other, and the two are joined together' (Stone *et al.* 2001: 10):

The dynamics that control the process cannot be seen as a predictable or controllable process, rather as an anarchic meeting-place which allows actors, problems and solutions to come together, sometimes such that the final decision or end-result is one that was desired by no one. It can therefore be misleading to speak of a decision-making process, for insofar as there are decisions in a garbage-can process, it is usually a matter of actors afterwards rationalizing the events in the process or its results into willed decisions. (Albæk 1995: 84)

John Kingdon used the terms **'agenda-setting model'** or **'multiple streams model'** to refer to this conception of the policy process, and focused on how issues are selected for inclusion on the policy agenda and how possible solutions are considered (Neilson 2001: 31):

In this model, streams of problems, solutions, and politics move independently through the policy system. Occasions arise (sometimes predictably, often not) where the streams are joined. A compelling problem is linked to a plausible solution that meets the test of political feasibility. (Porter & Hicks 1995: 3)

Changes in the political stream (e.g. a new government regime or a change in the national mood) open up **'policy windows'** or opportunities for new initiatives to be developed (Neilson 2001). Policy windows do not remain open for very long and close for a variety of reasons, including, for example, because those involved feel the problem has been addressed, or the event that resulted in the window opening has passed, or there is a change in personnel, or there is simply no available alternative (ibid.).

Policy paradigms

Diane Stone and her colleagues make reference to the notion of 'policy paradigms' as another lens through which to highlight constraints and opportunities for the use of research in the policy-making process. Quoting Hall (1990), these authors define a policy paradigm as 'an overarching framework of ideas that structures policy making in a particular field':

The paradigm serves to define the problems that are to be addressed, and what policies or instruments are appropriate to resolving them. In this approach socio-economic and political factors become the main determinants of whether knowledge is acceptable. Ruling coalitions or powerful political interest groups exercise a crucial impact on the kind of research, analysis and advice that is selected in policy-making through their influence over these paradigms. Research becomes subordinate to political interests, a resource to be used in furthering those interests. (Stone *et al.* 2001: 7)

Within this model, for the most part, the policy-making process is characterised by small, incremental changes to existing policies, infrequently interspersed with major policy change. Stone *et al.* (2001: 7) outline Hall's (1990) three orders of policy change or policy learning as follows:

- The first order sees minor changes to existing policies where the 'legitimacy of the overall policy framework is not questioned'.
- In the second order of policy learning, when 'satisficing' fails, the 're-assessment of existing policy generates evaluative research' which can lead to suggestions for alternative approaches and some policy experimentation. However, the policy paradigm is not questioned and any changes take place within the existing framework.
- Third order policy change sees a paradigm shift in the 'thinking that informs policy' when first and second order changes fail: 'Problems are redefined, new interpretative frameworks are developed, and policy learning from external sources takes place.' The authors give as an example the radical shift from Keynesianism to neo-liberalism. This offers researchers the opportunity to 'provide the foundations for alternative paradigms'.

Policy network models

In the policy network models, the development of public policy is seen as resulting from 'conflict, bargaining, and coalition formation among a potentially large number of societal groups organized to protect or advance particular interests common to their members' (Grindle & Thomas 1997, in Neilson 2001: 23). Researchers, scientists and policy analysts are amongst such groups. Four policy network approaches can be distinguished, including: issue networks, epistemic communities, policy communities and advocacy coalitions.

Issue networks are groups that share knowledge about particular policy issues or problems. Such networks are more well-defined than general interest groups as Hugh Heclo (1978, quoted in Neilson 2001: 24) suggests: '… those in the networks are likely to have a common base of information and

understanding of how one knows about policy and identifies its problems'. Members move in and out of issue networks all the time and there is no one person or organisation that is in control of the issues.

Epistemic communities are networks of experts (professionals, researchers, scientists) from different backgrounds and disciplines who have 'an authoritative claim to policy-relevant knowledge in a particular domain' (Stone *et al*. 2001: 33). These experts cohere around particular norms and causal beliefs and actively seek to bring about change in specific policy domains (Stone 1996, in Neilson 2001). Haas (1992) describes what binds these individuals into epistemic communities as follows:

… (1) a shared set of normative and principled beliefs, which provide a value-based rationale for the social action of community members; (2) shared causal beliefs, which are derived from their analysis of practices leading or contributing to a central set of problems in their domain and which then serve as the basis for elucidating the multiple linkages between possible policy actions and desired outcomes; (3) shared notions of validity – that is, intersubjective, internally defined criteria for weighing and validating knowledge in the domain of their expertise; and (4) a common policy enterprise – that is, a set of common practices associated with a set of problems to which their professional competence is directed, presumably out the conviction that human welfare will be enhanced as a consequence. (Haas 1992, in Neilson 2001: 24–25)

Stone *et al*. (2001: 33) suggest that these common beliefs about causality, validity, vocabulary and professional judgement – in other words, 'consensual knowledge' – are what is required for commitments to, for example, ecological principles or Keynesian economics.

Policy communities comprise policy actors from within or outside of government structures. These policy actors are specialists within specific policy fields (such as education, health, housing or taxation) and thus usually revolve around specific government agencies or ministries (Stone *et al*. 2001). As such, policy communities might include academics, consultants, journalists or activists, as well as bureaucrats and government officials (Neilson 2001; Stone *et al*. 2001). According to Stone *et al*. (2001), policy communities are institutionalised (i.e. part of the governance structures) and thus the most stable of the policy network models.

Advocacy coalitions form yet another version of the policy network model. Advocacy coalitions comprise groups of people from various walks of life who share particular beliefs about values, causal relationships and perceptions of policy problems, and who are engaged in some form of coordinated activity over a long period of time. According to Sabatier and Jenkins-Smith (1993), advocacy coalitions operate on four premises:

… (1) that understanding the process of policy change – and the role of policy-oriented learning therein – requires a time perspective of a decade or more; (2) that the most useful way to think about policy change over such a time span is through a focus on 'policy subsystems', that is the interaction of actors from different institutions who follow and seek to influence governmental decisions in a policy area; (3) that those subsystems must include an intergovernmental dimension, that is, they must involve all levels of government (at least for domestic policy); and (4) that public policies (or programs) can be conceptualized in the same manner as belief systems, that is, as sets of value priorities and causal assumptions about how to realize them. (Sabatier & Jenkins-Smith 1993, in Neilson 2001: 27)

Within this framework, major policy changes are understood to be influenced primarily by external factors, such as changes in the macro-economic conditions or the emergence of a new system of governance.

Policy narratives and discourses
The notions of 'policy narratives' and 'policy discourses' derive from postmodernism. According to Stone *et al*. (2001: 12), such approaches to understanding the policy-making process

'emphasise how language or discourse shapes the policy agenda, and how problems and solutions are understood. It is not external events that cause policy change, but how these events are perceived, interpreted and articulated'.

A policy narrative forms part of a broader discourse. The narrative is a 'story' with a beginning, middle and end that serves to simplify complex issues and processes (Neilson 2001; Stone *et al*. 2001). Such narratives are very powerful forces in their simplicity, as evidence has shown that they 'persist even when there is evidence to the contrary which calls into question the validity of the narrative' (Neilson 2001: 38). Counter-narratives have a greater chance of changing the dominant perception of social or policy issues than does empirical evidence. Rebecca Sutton (1999: 11) offers some examples of such policy or development narratives, including the 'tragedy of the commons' narrative 'which outlines the series of events leading from overgrazing of common land by pastoralists to eventual desertification', as well as the 'except-Africa' narrative which suggests that development works everywhere except in Africa.

'Discourse coalitions' are a form of policy network and are defined as such because these groupings of actors share a particular discourse around which they frame and mobilise political problems (Stone *et al*. 2001). Here, the policy-making process is viewed, in part, as a struggle for control over the policy discourse in a particular policy field. It is the role of discourse coalitions to develop alternative policy narratives and to find a way of entering these into the policy domain via interaction with other political actors in the institutionalised policy-making process. The ultimate aim is to change the way society and decision-makers understand and conceptualise particular policy issues, until such conceptions become the dominant mode of thinking:

Discourse coalitions seek to impose their own discourse on the debate in different policy domains. Various knowledge actors can be characterised as discourse managers involved in manufacturing the rhetoric essential to specialised policy subsystems. Success is 'discourse structuration', where a discourse coalition shapes the way in which society conceptualises a particular problem. As a discourse becomes entrenched as the dominant mode of perception, it can be reflected in institutions and organisational practices as the conventional mode of reasoning. This latter process is 'discourse institutionalisation'. A stable policy community is characterised by an institutionalised discourse. (Stone *et al*. 2001: 34)

According to these authors, when narratives become conventional wisdom they can serve as important mechanisms for communicating research ideas or findings:

Research can be influential in providing knowledge that supports the policy preferences of political leaders, or in providing a foundation for 'counter-discourses', alternative identities and sites of resistance. (Stone *et al*. 2001: 12)

I now turn to a discussion of the various factors that have been identified as impacting on the research-policy nexus.

4. Factors that impact on utilisation in the research-policy nexus

Over the past few decades studies into utilisation have highlighted a range of factors that impact on the effective uptake and use of research in the policy-making process. This section serves to unpack these factors. I begin with an overview of what David Glover (1997) refers to as 'supply-side' and 'demand-side' problems of utilisation in reference to the issues relating to the production of knowledge and policy-making process, respectively. This is followed by a discussion on the nature of the interaction between researchers and policy-makers and some of the factors that have been identified as impacting on these linkages.

4.1 Supply-side factors: The knowledge production process
A number of issues emerge in the literature relating to the

nature of social science research and the research process, and how these inhibit utilisation. A commonly cited issue is that academic research is often a slow process, spanning months to years, whereas the policy process often requires answers in a very short space of time.

It is also often suggested that the nature of academic research makes it unsuitable for use by policy-makers. In other words, there is sometimes a **disconnection or 'mismatch'** between the process and/or the products of research, on the one hand, and the knowledge needs and realities of policy-makers and the policy-making process, on the other (see Davies 2004; Ginsburg & Gorostiaga 2001; Glover 1997; Neilson 2001; Porter & Hicks 1995; Stone *et al*. 2001). These ideas were introduced in the discussion of the 'two-communities theory' in section 2.2. For example, academics often do not focus on issues that are of concern to policy-makers and might well focus their research on long-term scholarly and theoretical concerns. They seldom take into account the political and economic or feasibility concerns that would be of great importance to policy-makers, and their conclusions are often limited in scope. Added to this, many academics (and their research reports) draw on specialised terminology and jargon, which makes them less accessible by non-academics and their communication about their research, findings or analyses less effective. Even when researchers want to do research that will inform policy, they often have a poor understanding of the policy process and of 'how research might be relevant to this process' (Stone *et al*. 2001: 3). According to Ginsburg and Gorostiaga (2001: 177), social scientists subscribe to the view of knowledge as 'objective, factual, dispassionate truth' and tend to 'engage in scholarship in isolation from policy makers and practitioners', with the assumption that ideas, theories and findings will 'trickle down' to these policy actors.

Another example is the **open-ended, critical and uncertain nature** of much social science research. This frequently presents a problem since the research does not offer clear-cut suggestions for action, but instead provides a variety of options or alternatives. Similarly, there is seldom consensus within the social sciences, which further serves to complicate, rather than

clarify or simplify, policy options (Glover 1993). As Carol Weiss observed in the 1970s, 'much of what goes by the name of social science knowledge is flawed, inconclusive, ambiguous, and contradicted by evidence from other studies' (Weiss 1977b: 533). Philip Davies (2004; 3–4) is equally as scathing about the poor quality of some social research in terms of providing a sound basis for policy-making:

Many research studies are flawed by unclear objectives, poor research designs, methodological weaknesses, inadequate statistical reporting and analysis, selective use of data, and conclusions that are not supported by the data provided.

The more complex and controversial the issue, the more partial, contingent and contradictory the claims to 'scientific knowledge'. Poverty and energy are two current examples that spring to mind. With regard to poverty, Julian May (2003: 1) states that most often research measuring poverty depends on money-metric measures (income and expenditure, and 'estimates of the incidence, severity and duration of poverty'), but that, as yet, 'there is no consensus over the measurement of dynamic notions of poverty' (i.e. chronic poverty). May (2003: 16) points to the debates about the introduction of a universal Basic Income Grant in South Africa as an example of contestation over measurements of 'well-being', and survey and analytical methodologies, between different researchers and government, with the result that 'the extent, distribution and trends of poverty still remains the subject of debate and much of these data are under-utilised'.

Perceptions about the **quality** of the research, as well as the producers of the research, have also been found to impact on the extent to which policy-makers will factor research in as 'a source of useable knowledge' (Neilson 2001: 44).

The factors described thus far ring true to a large extent. The fact of the matter is that research or knowledge production, and its associated processes, take on many different forms, each of which has different implications for the possibility of effective uptake and utilisation. Weiss (1991), for example,

proposed three models or hypotheses of research that would give rise to different forms of use in the policy-making process. These models included the following (Neilson 2001: 11):

- 'Research as data: likely to be influential in situations of consensus on values and goals; when two or three alternatives are sharply opposed; and when decision makers are analytically sophisticated;
- Research as ideas: likely to be influential at the early stages of policy discussion; when existing policy is in disarray; when uncertainty is high; and in decentralized policy arenas where many separate bodies decide;
- Research as argumentation: likely to be influential when conflict is high; in legislatures; and after decisions have already been made.'

The research that is available for policy-makers to draw on comes in many different forms. Davies (2004) lists systematic reviews[7], single studies, pilot studies and case studies, as well as expert evidence. Of these sources, Davies appears to prefer the systematic reviews as sources of evidence, describing them as being characterised by rigour and quality. The single studies, he suggests, often 'provide an unbalanced and unrepresentative view of the total available evidence on a topic or policy issue' because they are 'almost always sample-specific, time-specific, and context-specific' (Davies 2004: 7).

Davies (2004: 11–15) outlines different **types of evidence** on which social research is often based as follows:

- Impact evidence: Studies that assess the effectiveness of social interventions and/or the impact of policy on outcomes.
- Implementation evidence: Studies that assess the effectiveness of implementation and delivery of policies and programmes.
- Descriptive analytical evidence: '… descriptive surveys and administrative data about the nature, size and dynamics of

a problem, a population, sub-groups, or social activities'.
- Public attitudes and understanding: Studies that explore the attitudes and values of ordinary citizens, as well as their perceptions, experiences and understandings.
- Statistical modelling.
- Economic evidence: Research that calculates the 'cost, cost-benefit and cost-effectiveness of policies'.
- Ethical evidence: Research that weighs up effectiveness, costs, perceptions and experiences against social justice and ethical issues.

Another way of viewing research is through the lens of the **basic-strategic-applied spectrum** to which the Organisation of Economic Co-operation and Development (OECD) (1994) *Frascati Manual* refers. The manual draws the following distinctions: (1) Basic fundamental research: curiosity-/discovery-driven research; knowledge for knowledge's sake. (2) Basic strategic research: curiosity-driven research but with an eye to possible future applications. (3) Applied research: shorter-term research directed at solving a particular problem. Applied research, as the name suggests, is essentially aimed at the application of theoretical knowledge or specific research findings to a particular purpose and thus embodies some kind of user-orientation.[8] Basic research, on the other hand, by its nature, is neither directed towards nor formulated for specific uses or users. With specific reference to the field of evaluation studies, Michael Patton (1997: 16) describes the non-user focus of basic research as follows:

Academic aloofness from the messy world in which research findings are translated into action has long been a characteristic of basic scientific research. Before the field of evaluation identified and adopted its own standards, criteria for judging evaluations could scarcely be differentiated from criteria for judging research in the traditional social and behavioral sciences, namely, technical quality and methodological rigor. Use was ignored. Methods decisions dominated the evaluation

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7   Solesbury (2001: 5) defines a systematic review as 'methodologically rigorous exercises in assessing the findings of previous cognate research in order to synthesise the results'.

8   This potential for user-orientation emerges as a theme in the following section, 'The interaction between researchers and policy-makers', which focuses on the interaction and the interface between researchers and policy-makers. More detailed discussion of this aspect can be found there.

design process. Methodological rigor meant experimental designs, quantitative data, and sophisticated statistical analysis. Whether decision makers understood such analyses was not the researcher's problem.

Given that it operates according to its own logic and criteria, it is not surprising that the limitations of basic research in relation to utilisation are so visible and significant.

Gibbons *et al*. (1994) offered another lens through which to understand different **modes of knowledge production**. They suggested that towards the end of the 20th century there was a global shift from what they term 'Mode 1' to 'Mode 2' knowledge production. Mode 1 knowledge production refers to what is generally regarded as traditional forms of basic research. In Mode 1, knowledge is based in specific scientific disciplines, is relatively homogenous, is practiced within relatively hierarchical organisational structures, and has relatively standardised forms of quality control such as peer-group evaluation. Furthermore, research is governed largely by academic interests, is conducted in relative isolation from society at large, and its relevance is assessed by an academic peer group. As such, research problems originate and are solved without specific users in mind.

By contrast, in Mode 2, knowledge is produced within contexts of application and has a specific goal in mind that will benefit intended users beyond the university or academic context. Mode 2 accommodates the inclusion of a wider range of stakeholders, which means that the research problem or agenda, the methods to be used, and how the findings are to be interpreted, are influenced by a more diverse group of people than just the academic or disciplinary community. Owing to the complexity of the kinds of issues that Mode 2 knowledge production seeks to address, it is usually characterised by transdisciplinarity and heterogeneity in the research teams. Mode 2 also has different criteria for accountability and quality control (e.g. social acceptability). Shove and Simmons (1997: 216) suggest that Mode 2 has great potential for effective uptake and utilisation:

An important aspect of problem-centred research is that not only is knowledge produced in an interactive context, involving both researchers and a variety of other actors, but also the communication of results takes place primarily (and often exclusively) through the networks thus established. In addition, the movement of researchers and others between problem-solving contexts ensures that the knowledge produced in these temporary networks is diffused directly, whether or not diffusion also takes place through traditional institutional channels.

The extent to which this so-called 'shift to Mode 2 knowledge production' is occurring, or occurring equally in all places, has been brought into question, but it is beyond the scope of this review to go into these critiques. For the purposes of this review, the distinction between Mode 1 and Mode 2 knowledge production is a useful one insofar as it points to the possibilities for user-relevant research. It also links to some of the broader **contextual factors that are impacting on knowledge production**, particularly in higher education.

The higher education sectors of most countries around the world are feeling the pressure of powerful external drivers to become more user- and utilisation-oriented, with funding acting as a major driver. Universities are receiving smaller allocations of government funding than in the past and are expected to engage in so-called 'third stream' activities in order to generate additional income. Furthermore, the funding allocated to the higher education sector is increasingly focused on transdisciplinary application-oriented research, which 'strongly urges user, stakeholder and beneficiary involvement in higher education research' (Bailey & Mouton 2005: 10). There are also much greater demands for 'responsiveness' and accountability in the higher education (research) sector. Waterton (2005: 439) describes the implications of these forces on the nature and process of knowledge production as follows:

Today, funding concerns shape science in terms of project boundaries, what lies within and outside the boundaries of a certain project, and can also guide the parameters of the

kinds of work that scientists can and cannot legitimately do. The concerns of researchers to bring in their funding 'quota' to their own institute or center may therefore shape the content of the knowledge to be produced and the representations of that knowledge (including the treatment and representation of uncertainties in knowledge).

The call for greater user- and utilisation-orientation in higher education is also reflected in the higher education and science and technology policies of a number of countries. Shove and Simmons (1997: 219) observe that this user-orientation for the British academic research system is 'institutionalised' in the mission statement of the Economic and Social Research Council and the 1993 White Paper which urges the research system to place 'special emphasis on meeting the needs of the users of its research.'

Finally, Gornitzka (2003: 150) raises issues relating to the way in which **organisation-making policy is linked to producers of scientific information**. She suggests that the extent to which there are formal arrangements between the bureaucracy and the science/research system relevant to the agency's sectoral focus 'has an important impact on the access to and use of scientific information, since these agencies are formally open to research-based information through their participation in and links to these inter-organisational arrangements'. Working on the assumption that individuals act within organisations according to the position(s) which they occupy, Gornitzka (2003) considers the influence of structural arrangements within two organisational types on problem choice. Drawing on Scott's (1987) categorisation of professional organisations, Gornitzka outlines the differences between 'autonomous' and 'heteronomous' research organisations. Autonomous organisations are best characterised by the traditional, collegial university that is primarily oriented towards basic research. In autonomous organisations, the professionals (i.e. the scientists) 'are responsible for defining and implementing the goals of the organisational activities and for defining and maintaining the standards by which the work is evaluated' (ibid.: 64). In such organisations, there is quite a clear boundary between

professional and administrative tasks (and those who undertake them). In heteronomous organisations, 'professionals work within a formal hierarchy, and there is less discretion and autonomy delegated to the individual professional' (ibid.: 65). A prime example of such organisations is government research institutes.

In heteronomous organisations the hierarchical position would determine 'external' responsibilities of organisational members as well as their access to decisions about problem choice. In this respect, we expect that the position of an individual researcher in the internal hierarchy of a heteronomous research organisation will influence, first, the control that the researcher has over problem choice, and second, the contact he or she has with external agents.

In autonomous organisations the organisational structure allows less leeway for direct coercive control over the professional's activities, thus external relations and the interpretation of external expectations is decentralised. (Gornitzka 2003: 66)

On this basis, Gornitzka (ibid.) hypothesises that 'problem choice in autonomous research organisations will be less oriented towards users and application than problem choice in heteronomous research organisations'.

I now turn to a discussion of the characteristics of decision-makers and the policy-making process which give rise to certain demands in terms of knowledge requirements.

4.2 Demand-side factors: The policy-making process
As with the production of academic knowledge, there are various characteristics of the policy-making process, policy-makers and the contexts within which they make policy that impact on the nature and extent of research utilisation.

One such aspect is the policy objectives themselves. The **nature of policy objectives** and the manner in which these are formulated in general are often not amenable to rigorous

analysis. As Glover (1997: 2) observes: 'Rigorous analysis requires a clear definition of a problem and the variables to be measured'; by contrast, public policies and programmes 'have loosely defined and multiple, even contradictory, objectives'. Furthermore, many political issues are value-laden (Glover gives the examples of population policy, human rights or genetic engineering) and, as such, are difficult to research or evaluate.

The issue of **timing** was highlighted previously. Glover (1997: 2) observes that 'the need for research often becomes apparent too late', primarily because governments are generally resistant to suggestions (by research/ers) for improvements or change unless there is a serious problem at hand. By then it is generally too late to commission research into the issue as decisions need to be made. Having said this, owing to the nature of policy-makers' work, it is often not possible for them to be able 'to specify the exact information they need far in advance' (Garrett & Islam 1998: 8).

A third factor has to do with **who really makes the decisions**. Earlier conceptions of how research is taken up in the policy-making process suggested that the interaction was primarily between researcher and policy-maker. The political reality is that the process of arriving at decisions involves a range of people, including politicians and bureaucrats, but also other external interest groups, and is often characterised by conflict, bargaining and cooperation (Garrett & Islam 1998; Glover 1997). In other words, it might not be sufficient to target only one individual or group within the policy context. In cases where research is commissioned by a specific government agency, depending on the findings of the investigation, it might be that the commissioning agency is not the right audience. Weiss gave an example of this in her 1978 paper: a study that was undertaken for a Ministry of Education found that the major obstacle to student performance was poor nutrition – a more appropriate audience might have been the Ministry of Health (Glover 1997).

Research findings and information can be used in different ways by **different levels of decision-makers**, which include, amongst others, politicians and senior civil servants; middle-ranking and street-level bureaucrats; experts, specialists and advisors appointed by government; foundation officials; and members of civil society or non-governmental organisations (Garrett & Islam 1998; Stone *et al*. 2001). Each of these sets of actors operates at a different level in the policy process and sees the policy issues from different perspectives; and, therefore, interacts with and draws on research in different ways. Stone and colleagues (2001) outline six possible routes or channels researchers can pursue in getting their ideas, data or findings into the policy process. Each target group will require a different form of presentation and different dissemination strategy. In brief, the six routes include the following (Stone *et al*. 2001: 14–17):

- The legislative route, via participation in or consultation for parliamentary or legislative committees or inquiries.
- The bureaucratic route, via the development of 'relationships with senior bureaucrats and party advisors, either through formal interactions or within policy communities'.
- Educational avenues, via the dissemination of research through workshops, conferences, books and articles (although these are not very effective at reaching policy-makers); the inclusion of university researchers into the policy-making process; and, the movement of foreign higher education students.
- The climate of opinion route involves introducing ideas and ways of thinking to the general public, primarily through the media, in order to sway public opinion and therefore the political context within which policy is made.
- Involving intended users and beneficiaries in the research process through participatory methodologies such as Participatory Rural Analysis (PRA).
- Policy networks enable co-operation and interaction between researchers and decision-makers.

Another set of factors relate to **information behaviour and use** in the decision-making process. A commonly cited problem is that policy-makers are bombarded with enormous amounts of information on a daily basis, but, in fact, have very little time to read, absorb and assimilate relevant information. Verdier

(1984) is often credited with having observed that 'the average US congressman works an eleven hour day, of which eleven minutes are spent reading' (Glover 1997: 3). They also give as much, if not more, attention to knowledge gained from 'practical experience and common-sense wisdom' (Gornitzka 2003: 134). Some authors have highlighted factors other than research (or 'scientific knowledge') that compete for space and prominence as sources of influence in the policy-making process. Philip Davies (2004), for example, refers to the values, ideologies and beliefs of the political actors or agencies, or the pressure applied by lobbyists, interest groups and consultants. This echoes Weiss's (1977b: 533) observation that:

On the policy side, there are a host of competing claims for attention. The policymaking process is a political process, with the basic aim of reconciling interests in order to negotiate a consensus, not implementing logic and truth.

In short, policy-makers' decisions are based on input from a variety of sources, including, but not limited to, academic research(ers), practitioners, politicians, bureaucrats, journalists, interest groups, activists and consultants; policy briefs or guidelines, research or conference reports; experiential knowledge; budgetary guidelines; and experience and common sense (Elliott & Popay 2000; Garrett & Islam 1998; Ginsburg & Gorostiaga 2001).

Gornitzka's (2003) findings on bureaucrats' use of scientific information in agriculture and fisheries indicated that science was a very important source of information for technical know-how in policy-making, but that it was not the only source of information that was used. Other information was derived from administrative units. In addition, the engagement with research differed across sectors. In the fishery sector, the need for research was an integral part of the directorate's work and there was a built-in policy for the need to use research for policy and practice (Gornitzka 2003). In the agricultural sector, the perceived need for research varied: while some bureaucrats took the view that scientific information was an important basis for their work, others regarded it as a 'nice-to-have' but not as essential to their work (ibid.).

These realities about information use give credence to the idea that most research information probably plays what Weiss referred to as an 'enlightenment function' in the policy-making process (see section 2.2).

New knowledge of the sort that emerges from research thus may be picked up and amplified or muted and suppressed, depending on whether or not it resonates with the beliefs or perceived needs of the moment. (Evans 1986, quoted in Lomas 1990: 526)

The study of research information use in the policy process thus becomes the study of how that information does or does not resonate with individual and group values, and how the particular institutional arrangements that have been adopted facilitate or otherwise affect that process of resonance. (Lomas 1990: 526)

The different **modes of decision-making** within organisations give rise to differences in the way in which scientific information is utilised. Gornitzka (2003: 147) draws a distinction between 'actors and agencies that operate in a technical versus those that operate in a political mode of making decisions' with respect to information behaviour. She gives as an example the difference between a ministry and a directorate – the former would have stronger political loyalties, implying a more strategic use of research, while the latter would be more open to scientific information (in the sense of instrumental use) (Gornitzka 2003). However, as Gornitzka (2003) goes on to observe, this distinction might differ across sectors based on the different types of tasks each is engaged in – different tasks require more or less input from science.

Some of the factors that impact on utilisation are rooted in the **characteristics and orientations of the decision-makers** themselves. These might include their 'attitudes toward information, their perceived need for information and their perception of the decision-making process (the degree to which decisions are made through political activities and compromise between different stakeholders)' (Gornitzka 2003:

143). Some politicians or decision-makers are ignorant about the availability of policy-relevant research, or, when they are aware of the existence of such research, can be 'dismissive, unresponsive or incapable of using research' (Stone *et al*. 2001: 3). Furthermore, whether or not a policy-maker uses research to inform the decision-making process can be determined by the policy-maker's own interests. For example, as Garrett and Islam (1998: 8) suggest, policy-makers might be using research not for its sound evidentiary base, but instead 'to further their own interests, delay decisions, mark and occupy turf, or to enhance organisational credibility.' This links up with what was termed strategic, symbolic or political use of research in section 2.2.

Some authors have highlighted ways in which the education, training and experience (socialisation) of decision-makers impacts on information behaviour and use. Some decision-makers have higher education qualifications and some might also have prior experience as researchers or scientists. Broadly speaking, the suggestion is that the greater the exposure to higher education and research, the more likely the decision-maker will be to interact with researchers and possibly also incorporate research knowledge into the policy process (Gornitzka 2003; Marouani & Ayuk 2007). Furthermore, the specific disciplinary background and network membership of the decision-maker will influence his/her use of research. In this regard, Gornitzka (2003: 153) drew the following conclusions based on her research in the agriculture and fishery sectors in Norway:

First, one might assume that civil servants seek and use information, including scientific information, that corresponds to their own frame of reference provided by their educational background. The decision-maker will have an easier time finding, understanding and using knowledge emanating from the scholarly discipline within which he/she has passed years of formal training. The language and way of thinking of the scientific system will be familiar to the bureaucrat. … Second, the common educational background of the civil servants and scientists in the agricultural sector not only makes the bureaucrats cognitively capable of using science. It may also

be the basis for personal networks that have an impact on flows of information also in connection with bureaucratic decision-making. The bureaucrat can use his/her personal network to access information from science on an informal basis, or he/she is exposed to it by being in regular contact with researchers in his/her network.

The **organisational context** within which decisions are taken and policies are developed has an impact on the ways and the extent to which research information is utilised. According to Gornitzka (2003: 145), 'organisational structure defines what tasks an organisation and its members are set to perform and how these tasks are to be handled'. This includes the manner in which information is sought out, handled, interpreted and utilised. Gornitzka (2003) works with the hypothesis that decision-makers turn to external, new sources of information when dealing with new policy problems or policy areas, but will stick to internal, known sources in long-standing policy areas. Where new information in old policy areas is obtained, this is unlikely to be acted upon immediately. The findings of her study confirmed this hypothesis.

To conclude this section, I consider some broader factors which provide a context in which the policy-making process, and its knowledge requirements, takes place. One of these has to do with the **structure and culture of the political context**. For instance, Gornitzka (2003) argues that different forms of state represent 'different approaches to the national government's control and steering of research and higher education institutions … as well as to the institutional context of policy processes'[9] which, in turn, have a bearing on what happens in the research-policy nexus. Similarly, the prevailing bureaucratic tradition and political culture in a country can also shape the way in which research is used in the policy-making process, if at all. In the British parliament and civil service, preference is given to the knowledge and experience of the members, rather than the

9   Gornitzka reviews Olsen's (1988) presentation of four models of the modern welfare state which, Olsen argues, are found in some form or shape in Western democracies. The models address questions relating to the responsibilities of the state, the roles of the public/citizens, and appropriate organisational forms. The models include the sovereign state, institutional state, corporate-pluralist state and classical liberal state.

advice of experts or the 'voice of the public' (Lomas 1990; Stone *et al*. 2001). By contrast, the American administration prefers the input of an academic specialist of 'the highest reputation', who is usually supported by a substantial research budget (Stone *et al*. 2001: 23). In non-democratic countries, such as some countries in Africa, researchers 'may be incorporated into the governing regime's agenda or be excluded altogether' (ibid.). This severely inhibits researchers' ability to produce independent research and ideas. Garrett and Islam echoed these thoughts:

The particular cultural, political, and economic environment in which decision making takes place can define issues and determine the range of policy choices. Cultural conventions can define acceptable group or individual action and the limits of permissible policies. Macro political structures, such as the constitution or type of government, can expand or lessen policymakers' room to manoeuvre. Economic conditions can force action and restrict choices. (Garrett & Islam 1998: 6)

Another set of factors concerns **attitudes towards science and experts**. As Stone and her colleagues observed:

The complex, technical, uncertain or theoretical nature of many policy problems – nuclear energy, genetically modified organisms on agriculture and food, issues to do with public health, or atmospheric decay – means that policy makers need scientific advice and judgement to inform or guide decision-making. (Stone *et al*. 2001: 25).

However, with the increasing emphasis on the use of scientific knowledge in the policy process has come a greater challenge to the authority of such knowledge in the public domain (see, for example, Shove & Simmons 1997). In some countries, the government and/or the general public exhibit an anti-intellectualism or a scepticism or distrust of scientific expertise. Laypeople are increasingly aware of the contingent nature of scientific 'conclusions' and 'facts', that science is not necessarily objective and value-free, and that research can have strategic and political uses in the policy-making process (Stone *et al*. 2001; Weingart 1999). Rutgers and Mentzel (1999: 147)

describe some of the implications of this for utilisation studies as follows:

… in an epistemological vain, knowledge transfer can be analysed in terms of the acceptability of expertise, that is, in terms of the claim to knowledge put forward by the expert, or the claim of the policy-maker to privileged practical, moral and/or political insight. In a more sociological perspective, communication, legitimisation, and power become the central concepts in order to understanding the expert-policy relation.

4.3 The interaction between researchers and policy-makers
Similarities and differences in the worlds of researchers and policy-makers
The so-called 'two-communities theory' was highlighted in section 2.2, and many of the differences between the worlds of the researcher and policy-maker are implicit in the discussions in sections just discussed. More recent works have also pointed to this divide. David Glover, for example, teases out some of the pertinent differences between the objectives and values of economists and policy-makers. He points to the differences in objectives, suggesting that where 'policy makers tend to emphasize distributional concerns (i.e. winners and losers); economists emphasize efficiency' (Glover 1997: 3). He also highlights the different ways in which the achievement of objectives is measured:

Policy makers tend to assess costs and benefits in terms of the number of people affected, rather than financial costs and benefits … [and] they assess performance in terms of inputs rather than outputs (e.g. number of new hospital beds) rather than improvements in health. (ibid.)

This dichotomy between the so-called two communities has been critiqued for being an over-simplified and stereotypical portrayal of the worlds and individuals of research and policy. Ginsburg and Gorostiaga (2001: 179) argue that the two-communities metaphor 'ignores the heterogeneity of membership in each cultural group' and 'overstates the extent

to which individuals are members of only one of the two cultural groups'. These authors highlight a variety of similarities or at least overlaps between researchers and policy-makers.

Firstly, they observe that not all theorists/researchers accept that social science knowledge is objective and disinterested (ibid.: 179–180). Some regard such knowledge as culturally and historically located, linked to the ideological or value system of the researcher, and as serving specific interests or interest groups. Research is political with regard to the choice of research topics, the research designs and methodologies used, as well as the interpretation of the research results. In this sense, the theorist/researcher culture is actually closer to that of the policy-maker/practitioner culture.

Secondly, the authors note that there is heterogeneity among theorists and researchers and that they engage in a wide range of different activities (ibid.: 181). They point to the distinction between theorists (thinkers) and researchers (doers) – those who do 'normal science' and those whose work leads to scientific revolution and paradigm shifts (Thomas Kuhn), and those who produce 'grand' theory versus 'middle range' (or local) theory. In addition, theorists/researchers can work in a variety of organisational or institutional contexts including, for example, 'local, provincial, and national government units; bilateral and multilateral agencies; non-governmental organizations, including think tanks, consulting firms, and foundations; and universities' (ibid.). This heterogeneity also extends to the beliefs and values of theorists/researchers (e.g. differences between functionalists, conflict theorists and interpretivists), or to those who hold different epistemological positions (positivism, interpretivism, critical science), and in terms of drawing on different methods (e.g. quantitative, qualitative, participatory, action research). There are differences and separations between the various social science disciplines, in part owing to the structure and organisation of universities and disciplines. There are also differences in beliefs and values between social scientists working in the centre/North and periphery/South, as well as their presence in scholarly journals/published or cited work. Status (in terms of rank, tenure, etc.) also gives rise to

differences: 'some theorists and researchers clearly exercise more power than others in shaping the knowledge and ways of knowing in a given field during a particular period' (ibid.: 182–183).

Thirdly, the authors highlight the heterogeneity within the policy-maker/practitioner subgroup (ibid.: 183). They draw the distinction between those who are involved in planning and those responsible for implementation (policy-makers vs. practitioners). There are different values and beliefs between the two groupings where policy-makers and planners tend to look for generalisations that can apply to a wide range of institutions or settings, while practitioners tend to require more specific observations that apply to their specific settings (e.g. a particular school or child). The authors also point to differences in the education levels of policy-makers/practitioners: in general, those with higher qualification levels (e.g. postgraduate degrees) tend to 'view research as integral to their responsibilities' and have 'a high regard for educational research knowledge' (ibid.: 184).

Finally, the authors point to the overlapping membership of some researchers and policy-makers. They note that within the education sector, 'some university professors, presumably individuals engaged in theory/research, have moved in and out of roles as policy makers or practitioners in government as well as for-profit and non-profit organizations during the course of their careers' (ibid.: 185). They also note that sometimes policy-makers/practitioners engage in their own research. Crewe and Young (2002: 4) made a similar observation:

Research and policy defy neat separation. Researchers, policy makers and practitioners are not discrete groups; one individual can easily be in all three categories in different contexts or over a period of time.

Communication and dissemination strategies
Around the time of the utilisation studies in the 1970s and 1980s, the initial ideas about how to improve the uptake of research findings by policy-makers focused on improving the

dissemination of research to policy-makers.[10] More often than not, we think of dissemination as the means by which we alert others (specifically those whom we regard as being potentially interested in our work) to the availability of new research data, analyses and information. Over and above the usual scholarly outlets such as books, peer-reviewed journal articles or conference presentations, possible users can be alerted to new research findings via the media, brochures and pamphlets, the internet, seminars or policy debates (Stone *et al*. 2001). The 'how-to' of effective research communication and dissemination usually points to the importance of target audience, content (of interest to the policy-maker), packaging (accessible language, format and style), appropriate and effective communication channels (including media, lectures, training programmes), amongst others (see, for example, Garrett & Islam 1998).

The emphasis on improving communication and dissemination strategies in these ways, as a method for improving research utilisation, has been criticised in many quarters. Stone *et al*. (2001), for example, highlight four problems with this approach. They argue that such dissemination strategies assume a one-way flow from researchers to policy-makers rather than an ongoing interaction between the two and others. They are not tailored to the different target groups, nor do they take account of possible communication constraints in developing countries (which require different kinds of strategies). Lastly, dissemination of this kind 'occurs in a social and political vacuum, when in reality strategies that work well in one country may fail elsewhere' (Stone *et al*. 2001: 18). These authors suggest that dissemination strategies should facilitate constructive engagement and dialogue between researchers and users.

Gornitzka (2003: 132) highlights a number of ways in which increasing dissemination can have an adverse effect, including 'information overload, spread of premature information or wrong/false information'. She also observes that simply improving the flow of research results to policy-makers does not take account of the relevance or appropriateness of the information to policy questions:

10   A quick internet search today reveals thousands of 'how-to guides' for improving the dissemination of research to intended or potential users.

Some types of information might further some interests and views of the world at the cost of others. Such a position does not necessarily imply that scientists are involved in conspiratory and subversive production of twisted and cooked data to further particular interests. The rather 'trivial' point is that scientific research is not neutral in the sense that it brings forward a pristine, unedited piece of nature of society that can be transformed into public policy. On the contrary, the type of information that research-based knowledge represents, along with other types of information, inherently contributes to directing the attention of decision makers to certain aspects of reality while other aspects are not covered. From this point of view the more is not necessarily better for society, 'the common good' or 'democracy'. (ibid.)

Lomas (1990: 525) echoed this observation when he observed: 'Raw research information is not usable knowledge. … There is, therefore, a process involved in the transformation of research information into knowledge usable in policy-making.'

Finally, Shove and Simmons (1997: 220) point to the fact that dissemination should not be seen as an 'end-of-the-line activity' but rather as an ongoing and integrated part of the activities undertaken by researchers.

User- and utilisation-oriented research
As has been alluded to above, part of the trend towards the greater incorporation of research into planning, implementation and evaluation of social policies and programmes has been the recognition of the utility of involving intended or potential users or beneficiaries in one or more aspects of the research process. At the same time, over the past few decades there has been a growing demand from society at large for accountability and responsiveness on the part of science and scholarship, as well as policy-making and implementation.

A variety of social research methods have been developed with the express aim of improving the chances that the findings of research, as well as the associated ideas, theories and concepts reach the intended users. These include, amongst

others, qualitative methods, formative or process evaluation, stakeholder models, and utilisation-focussed evaluation (Albæk 1995). Similarly, certain kinds of research designs have emerged which aim to break down the traditional barriers between researchers and policy-makers and to improve communication between the two, in order to ensure more relevant research. Such designs include applied research, evaluation research, policy research and interest-driven research, amongst others. A well known example is Michael Quinn Patton's **'utilization-focused evaluation'**, which was first published in 1978. The key elements of Patton's approach include 'a consideration of how everything that is done [evaluated], from beginning to end, will affect use' and a specific focus 'on intended use by intended users' (Patton 1997: 20, original emphases). Taking this a step further are designs such as action research or participatory research in which the lines between researcher and client are entirely blurred.

'Policy analysis' emerged as a distinct form of inquiry designed to optimise the impact of research and analysis on policy-making. Behn (1981) defined policy analysis as follows:

… the examination of a particular policy problem in an effort to determine what the government should do; usually but not always, it is prepared for a particular policy maker who wants to make, has to make, or is able to make a specific decision (or take a specific action) about the policy problem. (Behn 1981, in Glover 1993: 7)

Thus, policy analysis is action-oriented, aims to produce specific changes, and provides suggestions on how to bring about such change taking political feasibility into account, and has a specific user(s) in mind (Glover 1993). Such client-oriented research is also problematic, however. Glover (1993) lists the following:

• The difficulties of identifying the 'right' client (i.e. the right person to inform or influence in the decision-making process) – before you know what your results are going to be, or even whether the person will still be in that post when your research is completed.

• Legitimacy issues with only serving one client – will this serve all the other relevant needs as well?

Shove and Simmons (1997: 216), speaking about environmental research and policy in particular, make the point that some social science disciplines have a much longer history than others in making presentations to policy:

Economic models have, for example, come to dominate discussion about societal responses to environmental change. By comparison, the cultural perspectives offered by anthropology and related fields of social science are only just beginning to find their way into these debates.

Ginsburg and Gorostiaga (2001: 192) use the term **'collective research and praxis'** to describe an approach which they believe facilitates the greatest communication and interaction – in the form of dialogue – between researchers and their clients:

Core assumptions of the 'collective research and praxis' approach are that researchers acknowledge and act on their political commitments in the context of engaging in theory and practice (i.e. praxis) with both professionals and nonprofessionals, such as students and community members. In this way, the boundary between theorist/researcher and policy maker/practitioner groups becomes blurred as those who identify (or are typified) primarily as playing one (or none) of these roles, in fact, play both. Not only do policy makers, administrators, teachers, students, and community members participate in research, but 'researchers' become active participants in various settings, working with others to understand and change schools and society. Members of these various groups engage in dialogue – joint reflection and action – with reference to theory and research as well as policy and practice. (ibid., original emphasis).

Making research more use- and user-oriented implies a range of possible new or different roles for researchers. Some of these are highlighted below.

Different roles for researchers

Stone and colleagues (2001) offer a long list of the different kinds of people in a variety of contexts and settings who undertake social research. These authors argue that 'different types of researchers and research organisations have very different abilities to access policy-makers at various levels' (ibid.: 13). They categorise researchers and research organisations according to the type of relationship they have with policy-makers. The five categories are as follows (ibid.: 13–14):

- **Contract researchers** who can interact with policy-makers in an official capacity such as consultants, expert advisors or members of a government committee or inquiry, or be attached to policy units or non-departmental public bodies.
- **In-house researchers** are usually public servants working, for example, with official statistics or within the executive.
- **Political advisors** are appointed to political leaders and are 'likely to share their political and ideological interests'.
- **Civil society researchers** often fill the gaps in research produced by governments or produce 'critical alternatives to government policy'. They primarily influence policy through think tanks and non-governmental organisations.
- Researchers involved in **disinterested research** are usually on the furthest margins of the policy process, since their work is not policy-focused. Nevertheless, such research can still find application in policy-making.

Research has shown that when researchers have different roles within their particular policy arena, beyond their role as researcher in an academic setting, the communication, dissemination and application of their research is greatly facilitated. Such roles could include those within government committees, non-governmental organisations, international agencies or professional groups. Shove and Simmons (1997: 219) refer to this as 'researchers cultivating hybrid identities'. For example, one of the researchers in Shove and Simmons' (1997) study into environmental research and policy-making was a full-time academic but also participated in a range of small, influential non-governmental organisations. According

to these authors, this researcher 'was able to gain access as an observer to key international committee meetings, to run relevant research briefings and workshops in "real time" alongside policy negotiations, and hence to influence, as well as study, the processes involved' (ibid.: 218). Teaching is another method through which researchers can interact with and influence the policy community:

Teaching often gets overlooked when research dissemination is discussed, but for this particular group of researchers it was a vital form of interaction with the policy networks of the countries which formed the focus of their research. (ibid.: 219)

Through these different roles and experiences, researchers develop contacts and relationships in a variety of contexts and over a period of time:

Opportunities for developing research relationships with local, national or international agencies, with government organisations, or with professional or local community groups also depend on researchers' prior experience and institutional position and on networks of contacts brought to the project or developed during the course of the research. (ibid.: 218)

In reference to the researchers in the 12 environmental research projects in their study, Shove and Simmons (1997: 218) list the various ways in which researchers developed relationships including, for example, through participating in particular policy communities; developing relationships with local, national and/or international governmental and non-governmental organisations and agencies, as well as professional groups in the policy arena and 'strategically positioned researchers in other countries'; and, participating in action research interventions in local policy communities or networks. These authors (ibid.: 219) also suggest that the **involvement of researchers in different roles within the policy arena** ('policy advisor, informant, teacher, activist or participating member of a policy community') facilitates greater engagement with intended or potential users, and hence facilitates greater possibilities for utilisation:

If we look again at relationships with the policy world we can see that, contrary to the still prevalent linear model of knowledge diffusion, the dozen researchers in our study developed interactive relationships with policy actors, each adapted to distinctive micro-contexts. As we have seen, continually shifting roles and hybrid identities across these different contexts of interaction blur taken-for-granted distinctions between research and policy worlds. (Shove & Simmons 1997: 220)

Other authors have highlighted the need for researchers to assume a much more **proactive role** in relation to the utilisation of their work in the policy-making process. For example, some have suggested that researchers need to actively create 'spaces' in which researchers, policy-makers and other members of the policy community can interact, exchange ideas and perspectives, and debate issues. One of the environmental researchers in the Shove and Simmons (1997: 220) study

… was primarily concerned to create fora in which policy officials would be exposed to the ideas and experiences of other practitioners and encounter new perspectives and new ways of conceptualising their 'problems'. The deliberate manufacturing of these encounters was, for him, a major 'product' of a research process which was, at least in part, deliberately designed to re-frame existing policy agendas.

The role of academics as public intellectuals, as well as spaces for dialogue and debate, are pertinent here.

Others go way beyond communication and dissemination and urge researchers and policy analysts to assume the role of **'advocate'**. Porter and Hicks (1995: 5), for example, suggest that '[at] the very least, policy projects should recognize that much of what they are about is persuasion and argumentation, and not simply the kind of self-confined, academic research effort that has inspired the (self-centered) utilization question'. In this regard, authors such as John Kingdon and Diane Stone talk about the role of **'policy entrepreneurs'** in policy communities. For Kingdon, policy entrepreneurs 'are advocates for certain

proposals or for the prominence of an idea' (Neilson 2001: 26). Policy entrepreneurs can emerge from within government, interest groups, civil society or research organisations. Kingdon suggests that successful policy entrepreneurs have three important qualities: the ability to command attention – through expertise, being in a position to speak for others, or occupying 'an authoritative decision-making position'; political skills and resources; and, stamina and determination (ibid.: 36). Some authors contend that policy entrepreneurs are central to the successful influence of research on policy-making; good ideas are insufficient – there is a need for someone to champion or advocate for linking problems to solutions and thereby bringing about policy change (ibid.).

For others, there is a role for **mediation and translation**, encapsulated in such terms as 'knowledge brokers', 'linkers', 'research brokers' or 'translators' (see, for example, Ginsburg & Gorostiaga 2001; Glover 1993). Such individuals understand the research and the research environment intimately, but also understand the policy process and how to package and communicate research findings for policy. They act as intermediaries between researchers and policy-makers (the role of organisational intermediaries is discussed in the next section):

The broker responds to a client's needs by seeking out needed information (or a researcher who could provide it); synthesizing and condensing information; and providing technical assistance to help the client interpret the data. (Glover 1993: 8)

While the idea of a research or knowledge broker sounds very useful in theory, some authors have observed that this role is sometimes problematic. Glover (1993: 8), for example, notes that brokers can be used as 'scapegoats for policy failures', be forced to 'suppress embarrassing reports and to tell clients what they want to hear'.

Finally, Jaro Mayda (1999: 400) refers to **'specialists in generalization'** and describes these as follows:

A new group of policy specialists/generalists is needed to institutionalize what has occurred in some major environmental impact assessments: the de facto presence on the team of somebody who, apart from his own specialized contribution, also acts as a synthesizer and liaison. … An outstanding characteristic of the specialist in generalization is his/her ability to link several issues without understanding every detail about each, but their most important quality is the ability to talk to both ends of the process without distorting the information obtained from either.

The role of intermediary bodies

With the growing emphasis on utilisation and greater understanding of the dynamics and challenges associated with the processes involved, specific structural or organisational arrangements have emerged that seek to play the role of intermediary in the research-policy nexus.

A key literature in this regard is that relating to **'boundary work'** and **'boundary organisations'**. Claire Waterton (2005: 435) defines boundary organisations as 'institutions that mediate between policy- or decision-makers and scientists'. According to Waterton, offices of technology transfer gave rise to early conceptions of the boundary organisation. David Guston (1999, in Waterton 2005: 436) lists three important roles for boundary organisations:

- 'they provide a space where common languages and ways of talking across the two domains of science and politics can be created;
- they bring together the different parties (scientists, regulators bureaucrats and decision makers, and so on) working in these different domains;
- they dwell in the interstitial spaces between these social worlds – broadly speaking, of science and policy respectively – yet they carve out distinct lines of responsibility and accountability to each one.'

The term has more recently been taken up in social research circles and in other cultural and institutional contexts. Examples of boundary organisations include grant review committees of science/research councils, research/technology transfer offices in higher education institutions, government commissions, 'or even private initiatives such as Bill and Melinda Gates' Grand Challenges in Global Health' (ibid.).

… the variation in co-construction of the science-policy boundary in which scientists play a part means that research questions, resulting knowledge and anticipated outputs are always calibrated together with policy questions, policy knowledge and policy understanding of what constitute acceptable outputs. The various science-policy domains and boundaries that result are often true 'co-productions' … they are also multiple, even for individual scientists and they may be somewhat unpredictable and temporary. (ibid.: 439)

As part of a broader study into the production and utilisation of knowledge in South African higher education, undertaken by a research group[11] at the University of Stellenbosch, Jaamiah Galant (2005) explored nine mini case studies of organisational forms that acted as intermediaries in the utilisation of research. The organisational forms included industry-based associations and forums and networks of researchers and practitioners, as well as a non-governmental organisation. The mini case studies explored the intermediary organisations' role in research as well as their interaction with both the users and producers of research in relation to research-related planning, resources and dissemination as well as research utilisation (ibid.).

While Galant's study consciously steered away from the assessment of impact of research on policy and practice, it was able to draw out the range of roles that such intermediary organisations play in linking or providing an interface for the producers and users of science or research, and thereby contributing to more effective uptake and use of research. Galant (2005: 10) describes the intermediary organisations in the case studies as:

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11   The Centre for Research on Science & Technology (CREST).

… organisations that perform a strategic function in bringing together a wide range of knowledge producers and knowledge users, with the latter ranging from practitioners to policy makers. The nature of the engagements facilitated by these organisations is such that the research interests of its members (who are often diverse) arise 'naturally' from these interactions. There does not seem to be much central steering or top-down directives. The articulation of research demand occurs in self-organising systems that in turn are embedded in other related networks.

Some of the general observations that Galant (2005: 10–11) makes about the case studies as a whole included the following:

- The industry-based associations emerged 'from their respective constituencies' while the forums and networks were 'driven by researchers sensitive to the needs of primary users'.
- Intermediary organisations engaged a variety of stakeholders (e.g. researchers, farmers, manufacturers, government extension officers, the media) in a range of different ways (e.g. direct interaction between users and producers, interaction at particular meetings, regional study groups, participation in committees and councils).
- Intermediary bodies employed a range of strategies 'in disseminating and mediating research to users', for example, in-house reports that are disseminated to constituencies (newsletters, newspapers, magazines, yearbooks, research abstracts, research reports); research results reported in the media; field visits and on-site demonstrations of new technology; and, re-packaging research reports to make them more accessible to users.
- For the researchers involved in these associations, networks and forums, the intermediary agencies played a critical role in 'facilitating access to users and modes of dissemination that the researchers would not have been able to achieve on their own'.

Two of the mini case studies[12] were illustrative of intermediary agencies that specifically included policy-makers as part of their target audience of "knowledge users" (Galant 2005:11):

… SACENDU specifically invites policy makers to its six-monthly regional meetings that also include researchers and practitioners, and prepares special policy briefs and makes explicit policy recommendations based on its data. One of the NMF's main strategies is to involve key stakeholders at the outset of a research project and once the research is completed, it makes special efforts to tailor reports for different groups of stakeholders and specifically targets different pillars of government that it feels can utilise the research to make policy decisions.

On the basis of the nine case studies, Galant (2005: 12) listed the following characteristics of intermediary agencies:

- 'They are focussed on a specific domain that is defined primarily by the users/practitioners within that domain.
- These organisations are "hybrid" in that they combine the functions of funding agencies, research management organisations, dissemination agencies and so on.
- The "proximity" between these agencies and the knowledge producers on the one hand and the users on the other seems to be a major reason for the "success" of these organisations in getting their "message" across in both directions.
- All of the above means that these agencies are very well positioned to "translate" the research needs and interest not only of their knowledge producers, but more importantly, of their users/practitioners very quickly and are able to adapt to changes in the demand environment quite quickly. This has the added benefit of representing a diversity of demands that performs a very important function in the national system of innovation.
- They draw on a range of resources that enable them to disseminate research widely and to promote and facilitate the uptake and utilisation of research.'

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12 The South African Community Epidemiology Network on Drug Use (SACENDU) and the Nelson Mandela Foundation (NMF).

Networking

Networking refers to interaction between different networks and organisations, as well as individual networking. A number of authors have observed the importance of networking in enabling policy entrepreneurs, epistemic networks or policy communities to get their message to the right people. Stone, for example, suggested that:

The links, networks and affiliations that think-tanks develop not only among other research organisations but also with the media, bureaucracy and government, foundations and universities, are important and effective means for epistemic and/or policy communities to diffuse their message. (Stone 1996, in Neilson 2001: 28)

A report produced by the International Development Research Centre (IDRC) in 2001 underlined the contribution of networking to policy influence and highlighted three factors relating to the role of the network in relation to the relevance of the research for the policy-making process:

The three factors which facilitated this relevance include: (1) the composition of the national research teams within the networks which included high level public servants, sector specialists as well as researchers; (2) research plans and priorities were developed through national fora; and (3) the global and multidisciplinary approach to the research. (IDRC 2001, in Neilson 2001: 29)

Stone notes, though, that networks do not equate to political influence, but they do play a significant role in facilitating and creating opportunities for influence:

Networking promotes solidarity, loyalty, trust and reciprocity. Conflict and opportunistic behaviour is diminished in favour of co-operation on a common problem of policy project. More resources and intellectual capital can be mobilized in efforts to shape policy agendas. (Stone 1996, in Neilson 2001: 30)

5. The research-policy nexus in the African context

As highlighted in the introduction to this review, much of the literature on research utilisation and the policy-making process is based on work undertaken in developed countries, especially the USA. There is far less literature, and hence theory and empirical research, pertaining to the research-policy nexus in developing countries, and in Africa in particular. Having said this, it is noteworthy that in the last decade, considerably more attention has been given to the developing country/African contexts. Julius Court and John Young (2003), for example, point to the substantial initiatives on the part of organisations such as the International Food Policy Research Institute (IFPRI), the Overseas Development Institute (ODI), the International Development Research Centre (IDRC), and the UK's Department for International Development (DFID) to investigate the impact of their research on development policy. However, there is still a paucity of work on the relationship between knowledge production and development in general, and the research-policy nexus in particular, in developing countries. It also cannot escape one's attention that all of these organisations are agencies that operate in developing countries but which have their base in the developed world. The historical context of knowledge production and policy-making in the less developed countries of the South is quite different to that of the developed countries of the North. It is important, therefore, to consider the earlier discussions about 'use' and the policy-making process, and the range of factors that impact on the research-policy nexus, in the national and regional experiences of the South.

There appears to be general agreement in the literature consulted that, like elsewhere in the world, limited use is made of research in policy-making. Perhaps more importantly is the observation that **research produced by Africans for Africans is under-utilised** and has little influence over policy-making on the continent (see, for example, Ajakaiye 2007; May 2003). Various explanations for this limited use of research have been offered. Some explanations focus on the macro and micro political contexts within which policy-making happens. Others

give attention to the perceived weaknesses and poor quality of African research. These are discussed below.

5.1 The political and policy contexts of the research-policy nexus in Africa

Brief reference was made in section 4 of this report to the role of political and policy contexts in facilitating and/or constraining effective linkages between research and policy. Court and Young (2006), for example, observe that international development policy formulation and implementation is subject to and takes place within the context of a wide range of global trends and regulations. These authors propose that developing countries face **four key challenges at the macro level of political context** in relation to effective utilisation, including democratisation, markets, civil society, and information and communication technologies. With regard to **democratisation**, the authors observe: 'It is thought that democratic contexts better enable research to be conducted and communicated (due to freedoms), and provide greater incentives for policy makers to use research (due to accountability mechanisms)' (ibid.: 3). They argue that in developing country contexts, even those that are democratically constituted, the political process is not conducive to drawing inputs – including empirical research and analysis – from a wide range of sectors and actors. Their explanations for this include that policy-making processes tend to be centralised and inaccessible to the broader population; civil society is often regarded as illegitimate or inefficient; and, policy formulation is more a response to the elite than the poor majority. Glover (1993: 5) adds to this when he observes that 'in those societies where politics is highly ideological, researchers and research institutions tend to be similarly divided, often with explicit partisan affiliations' and, as such, that research ideas and findings are only influential when the respective political party is in power.

These thoughts are echoed by Porter and Hicks (1995: 12), with specific reference to Africa. Amongst other things, they suggest that African governments tend to exhibit tighter control over the expertise available in the research-policy nexus than their Western counterparts do:

In many (probably most) African nations, public officials play a central and highly visible role in setting agendas. … Governments tend to be more highly centralized, they tend to be more insulated, and they play a more central and intrusive role in managing the economy. One consequence is that relevant policy information and expertise tends to be contained within governmental circles, meaning that policy communities (or subsystems) are largely made up of government technocrats together with researchers based in other public sector institutions (universities, training institutions, schools of public health, etc.). So in Africa, policy solutions and alternatives are largely proposed by actors embedded within or intimately tied to government, albeit with technical input from international donors.

In terms of **markets**, Court and Young suggest that as more and more developing countries enter into the global market economy (economic openness), the greater the demand for research-policy linkages by both government and private firms. This brings new actors into the political process. Similarly, the growth in the number of **civil society** organisations (non-governmental organisations, the media, think tanks, etc.) is also increasing the diversity and potential influence of these policy actors. However, as Court and Young (2006: 4) observe, 'the input of civil society into public policy is still quite limited' – governments still tend to set political and policy agendas and sometimes intimidate anyone who is critical or who proposes different ideas and courses of action. Finally, **information and communication** technologies can be very powerful in sharing information and making some kind of impact on policy by the broad majority; but the digital divide and marginalisation of the poor can exclude many from these critical information networks. Porter and Hicks (1995: 12) echo these thoughts in the African context:

In Africa, nongovernmental organizations or private sector interest groups with a stake in a particular policy area are generally more limited in their ability to engage and influence government decision makers than are … policy elites, if only because they tend to be less organized, have fewer resources,

and may be less familiar with or more reluctant to engage in policy advocacy.

Olu Ajakaiye (2007) takes as his point of departure the fact that the three major groups in the policy-making process in Africa include governments, non-state actors, international financial institutions and donors. He argues that owners and non-owners of research organisations have **different degrees of access to and control over policy research for Africa**. Non-owners (which can include both non-state actors as well as donors) have less influence over the policy-making process, especially because their demand for research is more sporadic:

… it is important to recognize that the demand for policy research by non-state actors and donors without policy research organizations of their own is likely to be episodic, induced by the need to respond to an urgent problem or crisis. Research is required when these actors want to argue for a change in policy or draw attention to a problem that threatens their interests, or those of their beneficiaries. Such research, which is mainly evaluative, is demanded when this class of actors want to intervene at the agenda-setting or the implementation stages of the policy process. They meet this demand for research findings through consultancies or commissioned research. Non-state actors are not particularly effective participants at the agenda-setting stage, while the donors are not particularly effective participants in the implementation stage. Accordingly, it appears that the demand for research by non-state actors and donors without their own research outfits is unlikely to have a profound influence on the iterative interactive policy-making process. (Ajakaiye 2007: 29)

There is also a range of issues about the **policy-making processes in Africa** that emerge in the literature. Ajakaiye (2007: 22) suggests that the linear (or 'stages') model of policy-making is the most common conception of the process in Africa on the part of donors and other international financial institutions, as is the associated linear problem-solving model of utilisation: 'The expectation has always been that good policy analysis

will translate into good decision-making and subsequently into good policies.' He argues that the 'undesirable outcomes' or even downright failure of many policies in sub-Saharan Africa, including those of the structural adjustment programmes (SAPs) of the 1980s and 1990s, is owing to the fact that the international financial institutions tend to pay 'excessive attention' to the first three stages of the linear policy model (i.e. problem definition, weighing up different options and selecting an option for implementation) (ibid.: 23). Furthermore, the financial institutions tend to dominate these early stages, especially in those countries 'that depend heavily on foreign aid and/or have a high debt burden' (ibid.: 25). Once a policy decision has been made, these institutions or donors withdraw from the process, leaving the government and other non-state actors to implement and later evaluate the implementation. It is during this phase of the policy process that governments often confront contestation, protest and even civil unrest from special interest groups, for whom the policy decision is unacceptable or undesirable:

… an iterative interactive policy-making process is a better reflection of the reality in the African context than is the linear model. However, it has been difficult for this process to produce authoritative policies – policies that are effectively and efficiently implemented – on the continent. This is because the influence of donors and IFIs, and to a lesser degree the state actors, dominate the agenda-setting and solution stages of the iterative interactive policy-making process, while the non-state actors exert greater influence on the implementation stage. And as has been show here, policies that do not enjoy the support of a majority of the socially powerful and politically influential non-state actors are not likely to be effectively and efficiently implemented. (ibid.: 31–32)

5.2 Knowledge production and research capacity in Africa

A number of authors have observed that African researchers are generally marginalised from the policy-making process on the continent and that research generated in Africa by Africans is seldom used for policy-making – either by governments or by donor agencies (see, for example, Ajakaiye 2007; Marouani

& Ayuk 2007). Some point to the **under-developed, resource-poor higher education research and science systems** in Africa (and other developing countries) as contributing to the limited use of indigenous research. Stone *et al*. (2001: 26), for example, describe the situation as follows:

By contrast to the resources at the disposal of western governments and international development agencies, many developing countries lack both in-house research capacity and administrative personnel with the skill to utilise research findings … Furthermore, many developing countries cannot afford the 'luxury' of pure research. Research spending must yield an economic or social return in order for development objectives to be accomplished.

There seems to be a fairly widespread impression (on the part of international agencies and/or African governments) that local researchers/scholars are **less experienced or skilled** at doing research and that the research that they produce is of an **inferior quality**. According to Neilson (2001), this translates into less funding for indigenous scholars. Geoffrey Nwaka (2006: 4–5) explains the very limited impact that social science research has on the policy-making processes in Nigeria in terms of the emphasis on disinterested, discipline-based research that is typical of Nigerian higher education institutions:

… some of our institutions of higher learning are still very patterned along inherited colonial lines, and tend to hold on to the old ideals of the pursuit of knowledge for its own sake, or the limited objective of producing an indigenous elite for the decolonization and Africanization process. This influenced the form and content of the curriculum, which paid very little attention to direct problem-solving or to the professions as the concern of higher education … Research is often carried out in a fragmented and narrow discipline-based manner, and research results, often influenced by ideological differences among feuding scholars, are usually ambiguous, inconclusive and sometimes even contradictory. Findings are typically too critical, offering few concrete suggestions or clear options to guide policy choices.

Within the existing constraints of the research capabilities of a country, it is often cheaper and easier for developing countries to **buy in the research capacity they need** which is often what happens (ibid.). As Neilson (ibid.: 45) notes, policy-makers in developing countries 'often utilize research results or research consultants originating from industrialized countries, since this research is perceived to be of better quality and therefore a more credible base for decisions'.

Running alongside these apparent deficiencies in the higher education and science systems in Africa is the ubiquitous **presence of the international financial institutions**, such as the International Monetary Fund (IMF) and the World Bank, as well as **United Nations agencies and international donors**. According to some authors, in the first decade after independence, both research and policy-making were dominated by these external bodies (Ajakaiye 2007; Court & Young 2006; Marouani & Ayuk 2007). While research and science capacity in African countries has increased and improved over the last few decades, the dominance of these agencies has continued and they still exert considerable control over policy and policy-making in Africa. A key instrument in this regard is the financial aid provided to African governments:

Donors very often link their aid to conditionalities that recipient countries need to respect, such as the implementation of SAPs to obtain Breton Woods Institutions loans and the preparation of poverty reduction strategy papers (PRSP) to obtain debt relief through the Heavily Indebted Poor Countries (HIPC) initiative. How strictly imposed these conditions are depends on donors' objectives, their influence (on the recipient countries or on other donors) and on their culture of development aid. (Marouani & Ayuk 2007: 11)

A second channel of influence is through what Marouani and Ayuk (ibid.) term the 'ideas aid' produced by donor research policy units, research centres or think tanks in developed countries. A third channel of influence is through 'capacity-building for African civil servants and policy-makers', which, Marouani and Ayuk (ibid.: 12) argue, allows 'donors to have

counterparts with a common or similar perspective of the issues in the recipient countries'.

Despite the potentially negative effects of the above-mentioned channels of donor influence on African countries' capacity to generate their own research for policy-making, Marouani and Ayuk (ibid.) mention a fourth channel of aid which can have positive implications; namely, financial support and capacity building towards developing an 'independent and competent research capacity within and for Africa'. The authors provide as examples the African Capacity Building Foundation (ACBF), the African Economic Research Consortium (AERC), the Global Development Network (GDN) and the Secretariat for Institutional Support for Economic Research in Africa (SISERA) (ibid.).[13]

The dominance of international agencies in the production of knowledge raises all kinds of issues relating to access to research on Africa, as well as the relevance, ownership and legitimacy of such research (Court & Young 2006). Geoffrey Nwaka (2006: 6) echoes these sentiments when he observes that:

… most bilateral and multilateral donor agencies and their aid programmes often have heavily funded consultancy components that employ tens of thousands of 'foreign experts'. Sometimes this pattern of technical assistance reinforces the problems of dependency as it underrates local knowledge, and undermines the local capacity-building efforts.

Ajakaiye (2007: 27–28) provides a typology of policy research (defined as 'scientific inquiry into a phenomenon or subject that is intended to produce facts that translate into policy advice to feed into the process') that is available to policy-making in Africa. The four types of policy research include the following:

• Surveillance/monitoring research: Ongoing and systematic tracking of 'developments in the economy and society with a view to identifying potential opportunities and challenges well in advance of their emergence to allow for the design

of appropriate policies and programmes to effectively deal with the situation.' (ibid.: 27)
• Evaluative research: 'to analyse and evaluate the impact of specific policies and programs against the background of the intended effects and identify the unintended but desirable effects which should be consolidated, while also identifying the unintended and undesirable effects that must be ameliorated.' (ibid.: 27)
• Prognostic research: 'to analyse the developments in the relevant aspects of the economy and society at regular intervals with a view to predicting the future direction the system may take under alternative policy regimes and/or evolving circumstances.' (ibid.: 28)
• Prospective research: 'to analyse the developments in the relevant aspects of the economy at regular intervals with a view to predicting the future direction the system may take under plausible circumstances that are largely outside the control of policy-makers.' (ibid.: 28)

According to Ajakaiye (2007), both African governments and non-state actors have limited resources and, as such, their research activities are generally limited to surveillance/monitoring and evaluative research. By comparison, the international financial institutions and donors have a wealth of funds, resources and capacities to undertake all types of policy research in and for Africa. Ajakaiye (2007: 30) argues that the fact that African governments are confined to carrying out surveillance/monitoring and evaluative research, and not prognostic or prospective research, puts them in a Catch-22 situation:

… their lack of capacity prevents them from doing the prospective and prognostic research to produce outputs needed to shape policies. They become marginalized, essentially reactive and defensive rather than proactive, and state actors then tend to undervalue them and their outputs. This is especially the case if the policy-makers cannot lay their hands on research evidence to help them win a policy argument with other actors during any of the three stages of the process. This failure may not be a reflection of defective research output, rather it simply reveals the relative

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weaknesses of some actors – and the enormous powers of others.

The fact that international agencies and donors have the resources to undertake all four forms of policy research means that they are able to dominate the agenda-setting and solution stages of the policy-making process, giving them a powerful influence over the process:

Their surveillance/monitoring research produces enormous amounts of data with which they construct numerous indicators that enable them (sic) identify problems well before they emerge. Through the subsequent prospective research, they are able to initiate discourses on imminent problems and solutions, even before the other actors have recognized the problems. Through prognostic research, they are able to influence – if not dictate – the development paradigm and the associated philosophical underpinnings of development policy. Their monopoly of these two important markets for policy research creates a 'no alternative' syndrome, as no organization in Africa is in a position to produce similar research outputs that may – and also may not – confirm the findings of the studies by the [international financial institutions]. (Ajakaiye 2007: 30–31, original emphasis)

And, of course, as Ajakaiye (2007: 31) observes, 'there is nothing guaranteeing that proposals that are consistent with the interests of these organizations will necessarily be in the interest of their client countries'. This raises issue around the unequal power relations between countries and external international agencies.

Finally, a common problem cited in the literature is the **scarcity of reliable 'hard' data** in developing countries (Glover 1993). The linear model of policy-making 'and its rational use of research assumes knowledge to be technical in nature and values "hard" data and findings which are seen as being more readily incorporated into policies than are ideas and concepts' (Neilson 2001: 17). Neilson quotes Grindle and Thomas (1991), in terms of the implications of this scarcity of data for decision-

making in developing countries, as saying that 'challenges to government decisions are easier, in the absence of concrete evidence, and likely to be more politically oriented. As a result, political power tends to be the central determinant of policy outcomes and implementation' (Neilson 2001: 17).

Hansohm and Naimhwaka (2007: 133) sum up the situation in sub-Saharan Africa as follows:

In sub-Saharan Africa, there are still systemic problems that hinder the results of economic policy research from feeding into the policy process. These include data scarcity, unreliability of data, little relevance of [economic policy research], social segregation of policy researchers from policy-makers, insufficient communication to the public, lack of awareness of researchers that they need to sell their ideas to policy-makers … Research systems in SSA are generally characterized by weak institutions for economic research.

Despite these obvious disparities between the capabilities to produce science and research of the developed and developing countries, some authors note that research capacity in the South has increased considerably over the past couple of decades. According to Ajakaiye (2007), over the last decade, both the supply side and demand side of policy research in and for Africa has become more competitive. On the supply side, there has been a growth in the establishment of policy research organisations linked to governments, central banks, labour unions and other associations, chambers of commerce, consultancies and non-governmental organisations. On the demand side, the democratisation of many African countries has seen the strengthening of national legislatures and a concomitant increase in the influence of other groups – political parties, civil society, labour unions, and so on – on the policy-making process. Nevertheless, the situation is far from adequate.

The following sections explore selected explanatory frameworks for investigating and understanding aspects of the research-policy nexus.

6. Selected explanatory frameworks

The studies of the 1970s and 1980s generated some models of research-for-policy utilisation. Later critiques of these models included that they were 'often merely a checklist of variables presumed to influence use, rather than a formal heuristic device', and that all their attention was placed on 'bridging the gap between knowledge producers and consumers' in relation to the 'two-communities' theory (Lester & Wilds 1990: 314). Both the policy process as well as the way in which research could feed into this process were quite crudely conceptualised as linear and uni-directional. Subsequent research and theorisation included 'the nature of the political and policy context within which both policy makers and researchers conduct their business as a key variable affecting knowledge utilization' (Lester & Wilds 1990: 314).

Earler in this review a wide (but not exhaustive) list of factors which impact on the use of research findings in the policy-making process was unpacked. Over the past few decades, various writers have attempted to draw together the factors they regard as relevant into explanatory or conceptual frameworks or models of utilisation. The following is a brief overview of selected frameworks that I have encountered in the literature reviewed, each of which looks at the issues from a different perspective.

6.1 Landry *et al* (2001): Four models of knowledge utilisation
Réjean Landry and colleagues provide an overview of four models of knowledge utilisation which highlight various determinants of knowledge utilisation (or independent variables, with knowledge utilisation as the dependent variable). The fourth model, the 'interaction' model, is an attempt to integrate the dimensions covered in the first three models into an inclusive framework for investigating utilisation. The four models include the following (Landry *et al*. 2001):

- **Science-push model:** Researchers supply decision-makers and practitioners with research findings. This is viewed as essentially a linear process where the researchers provide

the ideas for research and the policy-makers receive the research results. The critique of this model is twofold: '(1) transfer of knowledge to users is not automatic in a context where no one assumes responsibility for its transfer, and (2) raw research information is not usable knowledge and there is a process of transforming it into one usable in policy making' (ibid.: 334). Independent variables in this model include: type of research (e.g. quantitative vs. qualitative studies); number of publications; researcher focus on user needs versus advancing scholarly knowledge; and sources of funding (internal university or externally funded).

- **Demand-pull model:** Users are the primary source of ideas for research. Users and researchers enter into a 'customer-contract relationship' where the former define what research they need and contract researchers to undertake the research. This model is also conceptualised as a linear process. Utilisation is increased 'when researchers focus their projects on the needs of users instead of focusing them only on the advancement of scholarly knowledge' (ibid.: 335). One critique of this model is that even when decision-makers or practitioners commission research, they will not necessarily use the results if they conflict with organisational interests. An extension to this model therefore incorporates organisational interests and posits that 'research results are more likely to be used when they support the interests and goals of the organization' (ibid.: 335). Critics of the extended model argue that: (1) it still focuses primarily on instrumental use and does not take into account other, more diffuse, ways in which knowledge might be utilised; (2) it places too much emphasis on the needs of the users; and (3) it does not take into account the importance of the interaction between users and researchers as a factor that might increase utilisation. Independent variables include: the extent to which users think the research is pertinent to their problem; whether the research coincides with user needs; and timing of research results made available.

- **Dissemination model:** This model proposes that researchers engage in specific dissemination efforts in order to ensure that potential users are made aware of research findings.

Two determinants in this regard are: (1) the types of research results (scholarly journals simply do not do the trick); and (2) dissemination efforts, including the interaction between researchers and potential users. Independent variables include: adapting the research products for users (e.g. making reports accessible and understandable); making conclusions and recommendations more specific; and focussing on variables that are amenable to interventions by policy-makers.

- **Interaction model:** This model 'suggests that knowledge utilization depends on various disorderly interactions occurring between researchers and users rather than on linear sequences beginning with the needs of the researchers or the needs of the users' (ibid.: 335). Issues around interaction between researchers and users gave rise to the two-communities theory which problematises the relationship between these two groups on the basis of assumptions about the very different cultures of the two. Others have suggested 'that the more sustained and intense the interaction between researchers and users, the more likely there will be utilization' (ibid.). This model effectively integrates the factors in the other models into four determinants of utilisation including types of research and scientific disciplines, needs and organisational interests of users, dissemination, and linkage mechanisms. The independent variable is linkage mechanisms, for example, 'informal personal contacts, participation in committees, transmission of reports to non-academic organizations' (ibid.: 338).

6.2 Oh and Rich (1996): Integrated model of information utilisation

Cheol Oh and Robert Rich (1996) developed an integrated model of information utilisation which incorporated four sets of factors. They took as their point of departure the existing theoretical dichotomy in utilisation studies between the 'organisational interests' theories which explain information use in terms of the rules, structures and norms of organisations, and the 'communications' perspective which focuses on the perceived linkage problems that arise because of the distance between the 'two communities' of researchers and policy-makers (Oh & Rich 1996: 6–8). The authors believe that both these perspectives need to be taken into account, as well as what they term 'environmental factors'. The four sets of factors include the following:

- **Environmental factors:** Oh & Rich (1996: 10) limit their definition of 'environment' to 'how decision makers perceive the nature of problems from the environment; that is, as routine (familiar) or nonroutine (unfamiliar)'. Where a policy problem is routine, decision-makers will not need much information in order to make a decision. In contrast, a non-routine policy problem compels decision makers to 'conduct a wide search of information beyond their own agencies' (ibid.).
- **Organisational characteristics:** Decision-makers' positions in their organisations, as well as the organisations' incentives/reward system for information utilisation, have an impact on the nature and extent of the use of information in decision-making processes.
- **Decision-makers' characteristics:** Over and above examining the role of decision makers' attitudes towards information (following the two-communities theory), the authors (ibid.: 11) argue that one needs also to explore 'decision makers' need for information … and their perceptions of the decision-making process'.
- **Characteristics of information:** Oh and Rich (ibid.) suggest that it is insufficient to investigate only 'the amount of information received, content of information, information source, and interaction between researchers and decision makers'. Instead, they argue that the type of information is also significant, for example, whether it is in the form of policy analysis, programme evaluation or statistical data.

As can be seen from the solid and dotted arrows in Figure 1, Oh and Rich place more emphasis on the influence of the environment, the organisation and the information itself on information use than on the decision-makers' characteristics.

Figure 1: Integrated model of information utilisation
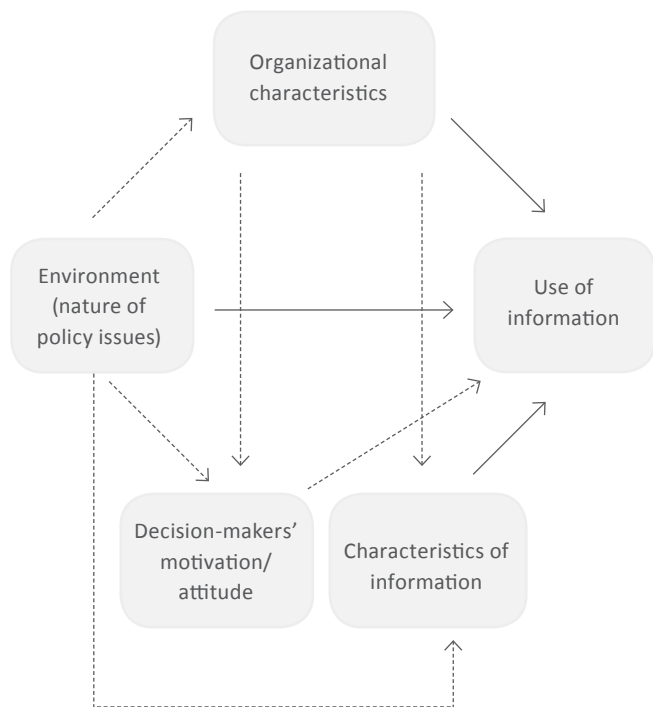
Note: Solid line with arrow represents direct effect; dashed line with arrow stands for indirect effect.

Source: Oh & Rich (1996:9)

6.3 Lester and Wilds (1990): Conceptual framework

James Lester and Leah Wilds' (1990: 316–317) conceptual framework is based on the idea that knowledge utilisation is a function of three factors including: '(a) inducements and constraints provided to or imposed on the user from the context within which analysis occurs; (b) the analysis itself; and (c) the decision makers' own predispositions toward policy analysis'. They summarise the obstacles to more effective use of research/policy analysis in the policy-making process into three categories: (1) contextual (political); (2) technical (methodological); and (3) bureaucratic (psychological). These

categories structure the conceptual framework, as depicted Figure 2. The authors interrogate these categories as follows (Lester & Wilds 1990):

- **Contextual factors:** the nature of the political environment within which policy is being made:
  - Are policy goals clearly stated so that the intended outcomes can be measured and evaluated?
  - Political feasibility of different options – efficiency and effectiveness might need to be compromised in order to balance political needs.
  - Timing of the research – more likely to be utilised if it is conducted/completed when a decision needs to be made or problem solved.
- **Technical factors:** Methodological constraints including study size, study timing, methodological adequacy, scope of focus, ambiguity or conclusiveness of findings, and credibility of researcher and his/her organisation.
- **Bureaucratic factors:** Psychological/user characteristics including cognitive skills, socio-economic background, personal motivations of the user; decision-making style – arbitrators, messengers, evaluators; and, worldview and commitment to particular policy problems.

**6.4 The Research and Policy in Development (RAPID) framework**

The Organisation for International Development (ODI) devised the Research and Policy in Development (RAPID) framework for analysing research-policy linkages. The RAPID framework includes 'three spheres in which the issues to be taken into account for analysis are clustered' (Court & Young 2006: 5). The three spheres include: (1) context (politics and institutions); (2) evidence (approach and credibility); and (3) links (influence and legitimacy). These spheres are, in turn, influenced by a range of external factors in the environment, including international politics, economic developments and cultural factors (see Figure 3).

The authors' description of the different elements of their framework is reproduced in full below:

Research–policy linkages are shaped by their political context. The policy process and the production of research are themselves political processes, from the initial agenda-setting exercise to the final negotiation involved in implementation. Political contestation, institutional pressures and vested interests matter greatly, as do the attitudes and incentives among officials, their room for manoeuvre, local history, and power relations. In some cases the political strategies and power relations are obvious, and are tied to specific institutional pressures; in others the pressures are more vague, and are tied to broad discourses or paradigms that may exert a powerful influence on which ideas are noticed and which are ignored.

The framework suggests that the nature of the evidence is important for policy uptake. The research approach and methodology are important, as are the credibility of the evidence, simplicity of the message, how it is communicated and the degree to which it challenges received wisdom. The sources and conveyors of information may be as influential as the content; for example, people accept information more readily from researchers they trust. But the hypothesis is that good quality research, local involvement, accurate messages and effective dissemination strategies are important if the aim is for more evidence-based policy making.

Figure 2: Conceptual framework for knowledge utilisation
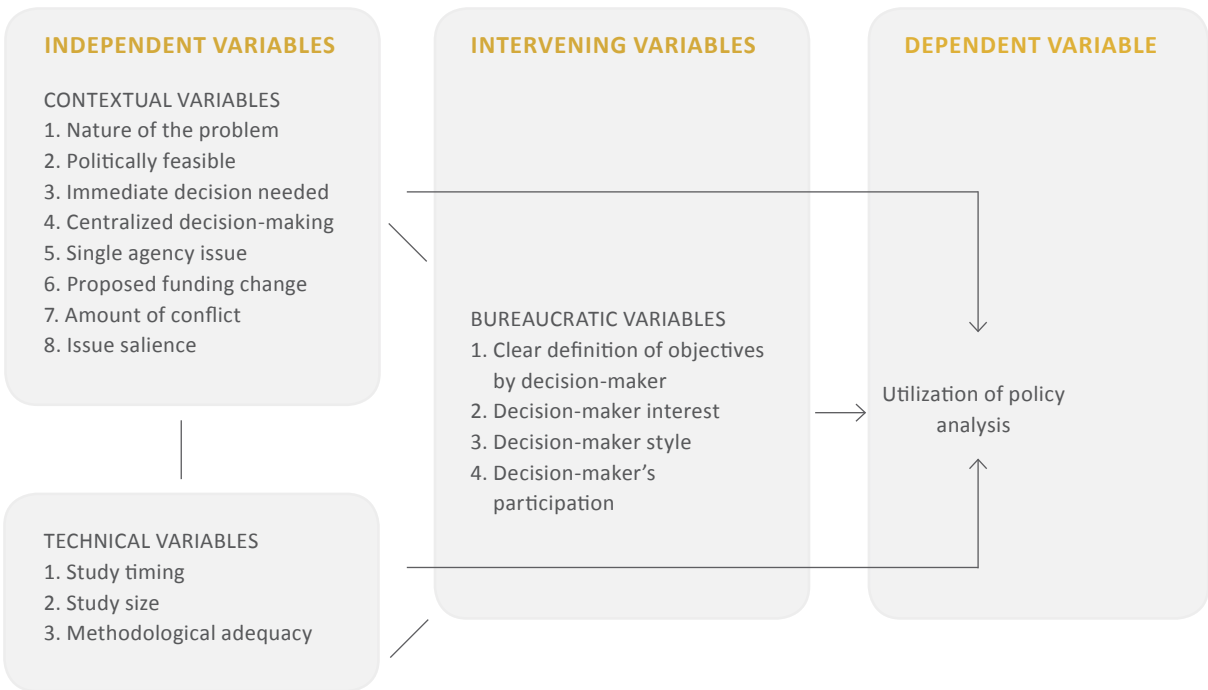
Source: Lester & Wilds (1990: 316)

Another set of issues concerns how evidence is communicated. The way new messages are packaged (especially if they are couched in familiar terms) and targeted can make a big difference in terms of how a policy document is perceived and utilized. For example, marketing is based on the insight that an individual's reaction to a new product/idea is often determined by the packaging rather than the content in and of itself. The key message is that communication is a very demanding process and that it is most effective to take an interactive approach. Continuous interaction is more likely to lead to successful communication than a simple or linear approach.

The RAPID framework emphasizes the importance of links – within and among communities, intermediaries (e.g. the media

and campaign groups) and networks (policy communities, epistemic communities, advocacy coalitions, etc.) – in effecting policy change. Issues such as trust, legitimacy, openness and the formalization of networks are important in relation to the speed and degree of research uptake. While some theory appreciates the roles of translators and communicators, it seems that there is often an under-appreciation of the extent and ways that intermediary organizations and networks impact on formal policy guidance documents, which in turn influence officials.

Finally, the framework emphasizes the impacts of *external forces* and donor actions on research–policy interactions. While many questions remain, the key issues here include the impact of international politics and processes, as

Figure 3: The Research and Policy in Development (RAPID) framework

EXTERNAL INFLUENCES
International factors, economic and cultural influences, etc.

THE CONTEXT
Political structures / processes, institutional pressures, prevailing concepts, policy streams and policy windows, etc

THE EVIDENCE
Credibility, methods, relevance, use, how the message is packaged and communicated, etc.

LINKS
Between policy makers and other stakeholders, relationships, networks, the media and other intermediaries, etc.

Source: Court & Young (2006: 5)

well as the impact of donor policies and research funding instruments. Broad incentives, such as EU membership or the Poverty Reduction Strategy Paper (PRSP) process, can have a substantial impact on the demand for research by policy makers. Increasing democratization, market liberalization and donor support for civil society are also having an impact. (Court & Young 2006:6-7)

6.5 The Framework for Strategic Evaluation of IDRC-supported research

Evert Lindquist (2001) outlines the IDRC's framework for assessing the impact of IDRC-sponsored research on policy development in their target countries. The framework focuses on: '(1) the nature and evolution of the implied policy network, (2) the objectives and expectations of the IDRC-sponsored project, and (3) the outputs and outcomes of the project, including unanticipated events' (Lindquist 2001: 25). The framework is reproduced below:

7. Methodological considerations

Given that the nature and dynamics of research-policy linkages and the interaction between research(ers) and policy(-makers) in the policy process is very complex and involves a range of different factors, researching the subject is not straightforward. This section concludes the review of the literature by highlighting some of the methodological challenges experienced by those conducting research utilisation studies, as well as some of the approaches used. Note that this discussion draws on the broader utilisation literature and is not confined to that which pertains only to the use of research for policy-making.

7.1 Operationalising and measuring the key terms around utilisation

Various authors have observed that one of the reasons why there is so little consensus in the knowledge utilisation literature as to whether and how research is used in policy-making is because

Describe Policy Problem, and the Nature/ Evolution of Associated Network	Describe the Intention and Scope of the IDRC-Project	Describe Project Cycle, Key Outputs and Events, and Policy Influence
• What in broad terms was the problem, gap or opportunity? • Who are the individuals and/or organizations that grapple with or monitor these issues? • What are the analytic capacities of the actors pertaining to these issues? • What are the dominant and other advocacy coalitions? • What have been key events or defining moments shaping this policy area, such as changes in government, new policies, new leaders, or new crises? • Could the decision-making regime be described as either routine, incremental, fundamental, or emergent?	• What did the project seek to achieve? Create or build capacity, transfer ideas, and, or have policy impact? • Who did it seek to influence directly or indirectly? • Did the project rely on policy entrepreneurs? Were they located inside or outside government? • What barriers to success were anticipated at the outset? • Was the project attempting to take advantage of the opening of certain 'policy windows'?	• How did the project unfold? • What were the key outputs of the project? • What were the critical events associated with the project? External events that mattered? • Did the designated policy entrepreneurs meet or exceed expectations? Did new entrepreneurs or allies for the project emerge? • Were there any unanticipated events or opportunities? • Were the anticipated policy influences achieved? Did alternative ones emerge? • What could be done differently in the future?

there is very little consistency in the way in which the keys terms are defined and operationalised (e.g. 'use', 'influence', 'knowledge', 'relevance', 'research' and even 'policy'). In some cases, these definitions are not articulated at all. In part, this is because many of these terms are ambiguous concepts, as was highlighted in the earlier sections of this review. The diversity of meanings results in "a lack of any consensus on criteria for assessing use" (Lyall *et al* 2004:75). This perhaps poses an even greater challenge to quantitative methods, where these key concepts need to be carefully defined and operationalised.

Two of the pioneers of utilisation studies in the 1970s, Carol Weiss and Michael Bucuvalas (1977, in Lester & Wilds 1990: 314), defined 'useful' as '(a) whether or not the content makes an intrinsic contribution to the work of an agency; and (b) whether or not officials say they would be likely to take that research into account in decision making'. Others have felt that the labels of 'instrumental', 'conceptual' and 'symbolic' use are restrictive and do not do justice to the actual complexities involved in knowledge utilisation, and should instead be replaced by scales and indices for knowledge utilisation. Réjean Landry and colleagues (2001) list a range of these developed in the late 1970s and early 1980s. They adapted the scale developed by Knott and Wildavsky (1980) into 'stages of knowledge utilisation', for their own survey of the utilisation of Canadian social science research, as follows (Landry *et al.* 2001: 336):

Stage 1   Transmission: I transmitted my research results to the practitioners and professionals concerned.

Stage 2   Cognition: My research reports were read and understood by the practitioners and professionals concerned.

Stage 3   Reference: My work has been cited as a reference in the reports, studies, and strategies of action elaborated by practitioners and professionals.

Stage 4   Effort: Efforts were made to adopt the results of my research by practitioners and professionals.

Stage 5   Influence: My research results influenced the choice and decision of practitioners and professionals.

Stage 6   Application: My research results gave rise to applications and extension by the practitioners and professionals concerned.

Another problematic term is that of 'influence', as in: In what ways did the research influence the policy-making process? Evert Lindquist (2001: 1), for example, talks about the complexities involved in identifying influence, particularly in developing country contexts:

Understanding causal influence is difficult in the best of circumstances for any activity: it is an especially complex task to assess the impact and role of research on public policymaking. Such assessments are difficult, first, because of the intrinsic nature of research and related activities, and, second, because the goal is to achieve influence in dynamic processes with a multiplicity of actors. The challenge is even greater when one asks such questions about the impact of research in Southern contexts, since most of the precepts developed for analyzing research utilization and policy-making processes more generally have come from Northern scholars addressing issues in their home jurisdictions.

Krastev (2000, in Neilson 2001: 3) suggests that influence be seen as existing on a continuum from direct impact at one end, to shifting the dominant discourse or paradigm at the other:

… in the narrow sense, 'influence' can be defined as the direct impact of policy research institutes on legislation or particular government decisions. 'Influence' in the broader sense can be interpreted as the power to change the prevailing paradigm.

A related challenge, highlighted by Diane Stone (1996), is that actors tend to use vague or inconclusive indicators to demonstrate 'influence' or have to resort to their own perceptions of what constitutes 'influence'. Stone refers to this as 'perceived influence' or 'faking influence', which links to the idea that assessments of the nature and extent of utilisation are often very subjective (Lyall *et al*. 2004; Stone *et al*. 2001).

Indicators of 'influence' or 'use' that are offered by researchers themselves include, for example, the frequency of individual contact with senior officials or securing their participation in meetings, or the number of researchers/analysts (e.g. economists) placed in the public sector (Neilson 2001). Stone *et al*. (2001: 29–30) list the following indicators that appeared in the annual reports of research organisations that they studied:

- 'Column inches in newspapers or number of citations.
- Number of website hits and/or page requests.
- Incidence of interviews on radio or television.
- Number of peer-reviewed publications.
- Public, professional and political attendance at institute events, lectures and conferences.
- Increased capacity to attract foundation grants, government contracts and other sources of funds on previous years.
- Establishment of new programmes, recruitment of new staff, renewal of projects.
- Appointment of research staff to government advisory bodies.
- Career progression of researchers into government or international organisations.'.

These authors (ibid.: 30) go on to highlight that recognition of or engagement with research – whatever recognition or engagement mean – might well be perceived differently by researchers and policy-makers:

These criteria are not proof of influence, but represent potential correlates of research recognition in public and policy venues. For example, attracting a senior politician to become involved in a research programme or conference can mean different things to the actors involved. For the research institute, it can be taken as a sign of policy relevance and governmental interest. For the politician, however, collaboration may simply offer no more than a platform with a reputable institute to further broadcast party policy.

Similar challenges are associated with determining or measuring 'impact', as in: what impact did the research have on policy? The literature on programme evaluation is replete with conceptual frameworks, models and practical guidelines on how to assess the impact of policies, programmes or projects. However, measuring the 'impact' of an intervention on the target population remains methodologically problematic. This is no less the case within the field of utilisation studies, especially in those instances, suggest Garrett and Islam (1998: 3), where 'impact' is defined in terms of 'a clear, direct link between research and policy outcomes'. As these authors observe: 'The "problem-solving" model of policymaking and research use that underlies this perspective implies that if a report is not read and the policy not immediately changed, the research was not useful and had no impact' (ibid.). They warn against relying on the problem-solving model as the framework for the assessment of impact, arguing that it does not reflect the realities of 'the policy process and how research information is produced' (ibid.: 4). They offer the following suggestions for the kinds of 'impact' that can be explored (ibid.: 3):

- 'Outputs, e.g. the format and quality of information that the research organisation produces.
- Process, e.g. how the organisation provides information to policymakers and whether that actually influences policy choices.
- Outcomes, e.g. whether the policies pursued by a government to which the organisation provides information actually affects final outcomes, by reducing poverty for instance.'

In relation to measuring influence or impact, Catherine Lyall and colleagues (2004: 76) raise the issue of timing: given that it takes time to diffuse the findings or ideas emerging from research, and that impact (if any) is more likely to happen in the long-term, they ask: 'So when is it a good time to measure impact?'

It is clear from the discussions earlier in this review that the terms 'research' and 'policy' can be defined in a variety of ways, and that how one defines these in a particular study will be closely linked to the research objectives and the specific context. It is perhaps appropriate to define these terms more loosely when

the study is exploratory in nature. In their exploratory case studies of the research-policy nexus in less developed countries, Court and Young (2003: 4), for example, defined research and policy relatively loosely. 'Research' they defined as 'any systematic attempt to increase the stock of knowledge' which could include 'any systematic process of critical investigation and evaluation, theory building, data collection, analysis and codification related to development policy and practice'. 'Policy' was broadly defined to include 'declarations or plans, as well as actions on the ground' (ibid.). Lindquist (2001) warns against lumping data, research and analysis together under the rubric of 'research' and highlights that while some of what goes as research in journals and other such publications is not always original or empirical in nature, but can comprise a synthesis of existing ideas.

There is also a need to differentiate between 'users' and 'beneficiaries'. In general, users are regarded as those who will or can use the results of research directly, whereas beneficiaries include much broader and loosely defined social groups that could or might benefit indirectly as a result of the research study (see, for example, Lyall *et al*. 2004). However, since these two groups are not necessarily mutually exclusive, some authors have argued that it is preferable 'to focus on the channels of diffusion and on the forms of research utilisation, rather than attempting to distinguish the effects on "users" from the effects on "beneficiaries"' (ibid.: 76).

7.2 Tracing the flow of information

As was highlighted earlier in this review, policy-makers draw on a wide range of information sources, including, amongst others, research, practical experience and common sense. This poses a number of methodological challenges. For instance, it makes it difficult to pinpoint or distinguish information that came from research, from all other sources of information. As Gornitzka observes, government departments do not follow the same referencing procedures that academics do:

Unlike when scientists use scientific information, in government agencies there are no norms and sanctions for the use of information without reference to its source. Consequently, the written trails of information in the shape of citations, for example, cannot be used as a method of studying the use of information in these types of organisations. (Gornitzka 2003: 134, original emphasis)

In addition, as Lyall and colleagues (2004: 76) point out, when studying utilisation from the user's perspective, one should bear in mind that 'it is very difficult to identify the use of research partly because its effect is long term and indirect, and partly because those using the research are often unaware of the source of their ideas'. They suggest that qualitative research, and case studies in particular, allow one to identify and trace the informal channels of knowledge transfer (which have been shown to be significant) as well as the formal routes and arrangements. They also enable one to identify the network of formal and informal contacts and interactions that happen along the way. As Lyall *et al*. (2004: 86) note, this approach might be more useful than quantitative methods for measuring communication (e.g. 'counting hits on websites or the extent of circulation of the annual report').

7.3 Sampling

Lyall and colleagues (2004: 77) warn against the use of standard sampling techniques, especially in studies of impact:

… the use of standard sampling techniques (random or stratified sampling) is not to be recommended when trying to assess the impact of research programmes and initiatives because studies on the outcomes of research and innovation efforts show that most impact is attributable to a very small number of individuals or projects.

In their study into the utilisation of agricultural and biological research in Scotland, Lyall *et al*. (2004: 84) used a 'self-selecting' sampling technique, that is, the research organisations that they were studying identified the 'individuals whom they considered to be their end-users'. The authors note the potential criticism that such an approach has the potential for bias insofar as the research organisations might only refer the team to individuals

whom they believe will speak highly of their work. To address this potential weakness, they asked the commissioning organisation to identify an additional group of end-users who were then asked 'to complete a second questionnaire for a [research organisation] of their choice' (ibid.).

Others have used a 'snowball' method of identifying and selecting end-users (for example, Molas-Gallart *et al*. 2002). This can, however, be time-consuming (Lyall *et al*. 2004).

8. Conclusion

As this review has illustrated, the terrain covered by the literature on the research-policy nexus – including empirical and theoretical work – is vast. It ranges from the context and nature of the policy-making process and the stakeholders involved in this process, on the one hand, to the context and nature of knowledge production and the orientations of the knowledge producers, on the other. The core of the literature focuses on the ways in which these two processes, and the actors, structures and strategies involved, interact.

By way of concluding this review, the key aspects of the literature are extracted and framed as a series of research questions that talk to the three dimensions of the research-policy nexus highlighted above. Many of these aspects are drawn together in different ways in the conceptual frameworks highlighted in section 6, especially those of Lester and Wilds (1990) and the RAPID framework. In this summary, however, the net is thrown more widely in order to provide a comprehensive set of issues from which particular research focii can be selected.

8.1 The policy-making and policy-maker perspective

How do policy-makers define 'use', 'influence' and 'impact' in terms of how research is used in policy-making? How do they define and distinguish between 'information' and 'knowledge' as well as different kinds of knowledge (e.g. 'strategic' and 'evidence-based' knowledge)?

How can the policy process be conceptualised and described in terms of research use? For example:

- As essentially linear and rational, i.e. comprising a sequence of logical steps (from problem formulation through to implementation) in which all the best available evidence is reviewed and weighed up in order to make the best policy choice that balances social, economic and political costs.
- As a messy, chaotic political bargaining process in which policy-makers draw on a range of inputs from various stakeholders, of which research evidence and researchers are only part (e.g. societal interest and national mood, historical and practical experience, ideologies and values, common sense, alliances, activists and lobbyists, politicians and bureaucrats, international regulations or agreements, networks or coalitions, the media).

How do policy-makers rank the above-mentioned sources of information? Where does research-based evidence fit into the scheme of things?

Does the government department commission research specifically to inform the development of a policy or set of policies? If so, how is this process structured and who is involved? Or do the policy-makers draw on existing sources of research? If so, how is this research accessed and selected?

What is the particular policy context within which this policy or set of policies is being developed? For example, is this new policy ground with room for manoeuvre, or is existing policy being tweaked within a prevailing policy paradigm?

What is the organisational context within which research is being used? For example:

- Is there a policy and/or strategy for the use of research-based evidence?
- What is the prevailing attitude towards research / science / intellectuals?

What are the information use characteristics of the key policy-makers? For example:

- Attitudes towards the use of research-evidence.
- Perceptions of the decision-making process.
- Exposure to research and the research process (e.g. education and training, prior research experience, disciplinary background, network membership)

8.2 The knowledge production and knowledge producer perspective

How do researchers define 'use', 'influence' and 'impact' in terms of how research is used in policy-making? How do they define and distinguish between 'information' and 'knowledge' as well as 'political knowledge' and 'evidence-based knowledge'?

In what organisational contexts are the researchers working? For example, as in-house government researchers, policy advisors, independent consultants, academics within universities or civil society researchers.

What are the intentions of the knowledge producers in terms of the outcomes and potential use of their research? For example, are they engaged in research that is consciously geared towards use, or is their primary orientation towards the production of scientific knowledge and understanding?

What kinds of strategies do the researchers use to communicate and disseminate their research?

To what extent do the researchers involve potential users in the research process?

8.3 The research-policy nexus

What form(s) of research and research evidence have been used in the policy-making process? For example:

- Statistics or statistical modelling.
- Theoretical or conceptual models.
- Discourses or narratives.

- Systematic reviews of existing research.
- Single studies, pilot studies, longitudinal or cross-sectional studies.
- Evidence of the effectiveness of implementation.
- Evidence of impact.
- Public attitudes or understandings.
- Economic evidence (e.g. cost-benefit analyses or feasibility studies).
- Ethical evidence.

What types of 'use' are evident? For example:

- Instrumental use (direct uptake).
- Strategic, symbolic or political use (research evidence is used to legitimise or justify policy decisions already taken).
- Conceptual use (research influences policy discourse through the introduction of new concepts, language, perspectives or interpretations).

In what ways do researchers participate in the policy-making process (roles and structures)? For example:

- Indirect or informal interactions with policy-makers through personal networks, scholarly profile and publication, and in different roles such as scholar activists, research brokers, advocates or policy entrepreneurs.
- Think tanks or advisory panels.
- Through epistemic or policy communities, advocacy coalitions or issues networks.
- As providers of commissioned research.
- Research agency directly linked to / part of government department.
- Intermediary organisations or bodies.

What role(s) do these structures play? Who is involved? What are the dynamics? How effective is this role in facilitating use?

To what extent does the 'two-communities' theory apply? In other words, are there discernable differences between the worlds of researchers and policy-makers in terms of:

- Worldviews, belief systems and values.
- Orientations.
- Expectations (e.g. in terms of use and impact).
- Language.
- Reward systems and incentives (e.g. authoritativeness vs. usefulness, rigour vs. relevance, scientific independence vs. political involvement, understanding vs. action).
- Social / professional associations.
- (Mis)understandings of the processes involved.

To what extent are different processes evident in different departments of government in relation to the focus of the policy, the wealth of the country, the prevailing political climate etc?

To what extent is there an overlap between the worlds, perspectives, orientations and understandings of researchers and policy-makers? For example:

- Where researchers view research as political (vs. scientific objectivity)?
- Where researchers were closely aligned to the political process (e.g. action research or local theory)?
- Where policy-makers engage in their own research?
- Where researchers and policy-makers have, at some point in their careers, been in each other's shoes?

What kinds of problems did policy-makers experience in relation to the research or the research process? For example:

- The research took too long to be useful in the policy process or was completed after a decision needed to be taken.
- The research did not focus on policy-relevant issues.
- The findings or recommendations were not financially or politically feasible, or not practical or broad enough to be implemented.
- The language and/or ideas were too academic or esoteric to be useful or accessible.
- The reports were too long to read or engage with.
- Different research studies contradicted one another.

- The quality or credibility of the research was questionable.

What problems did the research providers experience? For example:

- The policy objectives were not clearly formulated and thus were not amenable to rigorous analysis.
- It was unclear who to target because the decision-making was a collective process that involved multiple stakeholders.
- The policy-makers lacked the capacity to engage with the research.
- The policy-makers did not regard research as an important input.
- The policy-makers did not have / make the time to read research reports.
- The policy-makers disregarded the research findings because they clashed with the prevailing policy narrative.

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