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## The Loop, the Lens, and the Lesson: Using Resilience Theory to Examine Public Policy and Social Innovation

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### Introduction

The role of social innovation and social entrepreneurship in addressing complex problems has increasingly gained traction in policy-making circles with policy practitioners' interest piqued about how governments may best support such innovations (e.g. PRI, 2010). Various governments are attempting to support social innovation through a variety of means. For instance, the Office of Civil Society in the UK and the Australian Centre for Social Innovation are recent attempts by these national governments formally to institutionalize the fostering of social entrepreneurs and social enterprises. Other national governments have chosen simply to promote the 'production' side of innovation, by funding research and development, specifically for the technology sectors (Nelson, 1993). But while there is a growing body of grey literature that mirrors policy practitioners' own interest in this field (e.g. Leadbeater, 2007), scholarship within the social innovation and social entrepreneurship community has largely neglected the role of public policy in supporting or hindering social innovation (for an exception, see Chapman et al., 2007). Yet, without a substantive debate about the relationship between policy and social innovation, both scholars and practitioners will have only a limited understanding about the range of policy options that could best support the process of social innovation.

In response to this gap, this chapter aims to fulfil three objectives. Firstly, it will provide a theoretical framework for exploring the debate about public policy and social innovation by using resilience theory, and in particular its adaptive cycle, as a tool to analyse the process

of social innovation. Resilience theory identifies four distinct phases in the adaptive cycle, and in applying this cycle to social innovation, this chapter contends that different policies will suit different phases of social innovation. Secondly, the chapter will support the theoretical arguments put forth about the role of public policy by examining existing social innovation research and case studies. Thirdly, the theoretically informed insights will be used to highlight patterns in the social innovation–policy relationship and are intended better to inform the policy practitioners and social entrepreneurs who are engaged in discussing, championing, and attempting to reform public policy to support social innovations. To meet these objectives, the chapter proceeds in the following manner: it begins by defining social innovation and distinguishing this scholarly domain from social entrepreneurship. Next, resilience theory will be introduced, and a brief description of the lens it provides for examining social innovation cycles will be provided. The chapter will then move to position itself in the debate on the role of government in social innovation, and present the methodological approach. Following that, each phase of the social innovation process will be characterized in detail and supporting case studies will be used to demonstrate optional policy tools that may support each phase. Finally, a single case study on Inuit art will be explored through all of the different phases to illustrate the dynamic policy process that needs to be considered in successfully fostering social innovation.<sup>1</sup>

In keeping with the outline above, given the focus of this book, it is important to clarify the differences between definitions and perspectives on social entrepreneurship and social innovation at the outset. Social innovation is defined here as any new programme, product, idea, or initiative that profoundly changes the basic routines, resource and authority flows, or beliefs of any social system, and successful ones are those with durability and broad impact (Westley and Antadze, 2010). While much energy has been expended on defining social entrepreneurship (Nicholls, 2010), less attention has been paid to social innovation and, in particular, the differences between the two scholarly domains (for some exceptions see Mulgan et al., 2007; Westall, 2007; Phills et al., 2008). For the purposes of this chapter, social innovation is distinguished from social entrepreneurship because of the market orientation of social entrepreneurship (for further distinctions see Westall, 2007; Phills et al., 2008). Social entrepreneurship refers to individuals with a value-based social mission who pursue opportunities within the market context, whether their own organization is considered non-profit, charity, or for profit (Nicholls, 2006). Social innovations do not require the

market context and quite often, because of their transformative nature, social innovations may challenge existing economic models and ideologies (Antadze and Westley, 2010).

While both bodies of work are interested in the innovative nature of certain initiatives (Alvord et al., 2004), social innovation is focused on innovations that lead to systemic change (Antadze and Westley, 2010). Whereas a social entrepreneur may be recognized as successful once his/her product diffuses in the market from one to many people, a social innovation, often created by multiple forces, disrupts a larger institutional context and therefore does not rely on mass adoption to be considered a success (Antadze and Westley, 2010). However, given that some social innovations will occur as a result of the work of social entrepreneurs, the two as areas of study and practice do intersect. Thus, social innovation research can be usefully informed by the knowledge that has been advanced about successful social entrepreneurs (e.g. Leadbeater, 1997; Dees, 1998; Nicholls, 2006; Bornstein, 2007). Likewise, the driver of research in both areas is a shared understanding that complex social problems have yet to be addressed effectively by more narrow or traditional approaches (Austin et al., 2006).

## Resilience and the process of social innovation

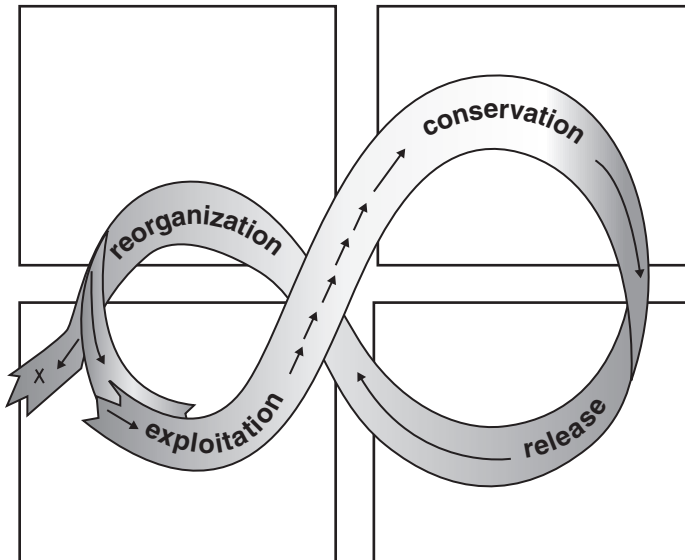
Social innovation is an important component of being resilient – new ideas keep a society adaptable, flexible, and able to learn. Thus, the theory of resilience provides a meaningful lens to build a better understanding of the conditions that enable innovation to emerge and succeed, which includes public sector policy support (Westley et al., 2006). Resilience theory stems from work in ecology in the 1970s (e.g. Holling, 1973) and the adaptive cycle, as represented by an infinity loop, is a key feature. The theory rests upon the idea that any resilient ecosystem is dynamically moving through an adaptive cycle, and that remaining stagnant in a fixed equilibrium is not healthy (Gunderson and Holling, 2002). The adaptive cycle has at least four distinct phases in what is best pictured as a figure of eight: release; reorganization; exploitation; and conservation (Gunderson et al., 1995; Gunderson and Holling, 2002).

Resilience theorists use a forest subjected to fire as a classic example of a resilient ecosystem. Examining Figure 3.1, the theory claims that when a forest burns, biomass is released, and diversity becomes low (Gunderson and Holling, 2002). This is the *release phase* of the adaptive cycle. As resources become available once again and new life begins to proliferate, available carbon and nutrients become attached to a wide diversity of

life forms, described as the reorganization phase (ibid.). Eventually, in a competition for resources, some of the diversity dies out and the extra resources are appropriated by the remaining organisms. In the *exploitation stage*, the organisms increasingly accumulate biomass as diversity reduces until the system attains the *conservation phase* of a mature cycle (ibid.).

While this brief description provides a useful background on resilience theory, this chapter does not focus on ecosystem dynamics; rather it will examine the dynamics of the social innovation process. In doing so, the chapter applies resilience theory and the adaptive cycle and argues that the cycle's four phases (Figure 3.1) provide a meaningful framework for considering the phases that social innovations may go through from inception to implementation (see also Moore and Westley, 2011). Through this application, the conditions of the different phases and how public policy can support or enable the process in each phase can be better understood.

In contrast to the ecosystem and forest fire example, the four phases of complex social innovation dynamics can be briefly described as follows: the release phase is characterized by the collapse of rigid, powerful rules and institutions (Westley et al., 2006). Due to the breakdown,



*Figure 3.1* The four phases of the adaptive cycle from resilience theory. Adapted from *Panarchy*, edited by Lance H. Gunderson & C.S. Holling. Copyright © 2002 Island Press. Reproduced by permission of Island Press, Washington, D.C.

however, the release phase may also involve new interactions and is the most likely site for creative (re)combinations of ideas, people, and other resources and ultimately, new innovations, as they are released from previous structures and organizations. The reorganization phase involves restructuring individuals around the visions for newly generated innovations, selecting the best options, and trying to establish some level of order without dampening the creative process. The release and reorganization phases are collectively referred to as the back loop (*ibid.*).

Moving into the front loop, the exploitation phase requires the reorganized groups to leverage the resources that are needed – from establishing legislation to finding financial support – successfully to launch and scale up the innovation (Antadze and Westley, 2010). With those resources leveraged, the innovation may move into the conservation phase which then involves building the formal rules, norms, skill sets, and routine efficiencies as the innovation now becomes mature and the new status quo. Eventually, the reorganized social system will become so rigid with its rules, structures, and dominant authorities and resources that it will become vulnerable to external threats and any event may create a disruption, sending the system back into the release phase once more (Westley et al., 2006).

The characteristics of each of these phases will be explored in greater detail in the ‘Phases of social innovation’ section below. However, it is important to acknowledge that representing the process of innovation using a cycle has long been identified and discussed in the literature on social and technical entrepreneurship (e.g. Schumpeter, 1937; Utterback and Abernathy, 1975; Van de Venn et al., 1999). The distinct difference however, is that the innovative products of Schumpeter’s social enterprises do not require system-altering disruptions. Nor do they create opportunities for portions of society to reorganize or necessarily lead to altered resource flows or sites of authority. Therefore, the resilience framework and adaptive cycle are better suited to understanding the systemic change process associated with transformative social innovations, rather than just innovation or social enterprise in general.

## Public policy agendas for social innovation

This chapter posits that government has a role to play in catalyzing social innovation through public policy. Although a consensus on the definition of public policy has not emerged within scholarship, the definition adopted in this chapter is the course of concrete actions selected by a political process to serve the public (John, 1998). But what does the

theory of resilience indicate the role of public policy to be with regards to social innovation? Given the dynamic cycle that the theory describes (Berkes et al., 2003; Holling, 2001), the role of public policy will need to be aligned with that dynamism. Likewise, given the growing literature on the need for governments and governance systems to be flexible and adaptive (e.g. Olsson et al., 2004; Folke et al., 2005; Voß et al., 2006; Duit and Galaz, 2008), it can be inferred that a single, rigid policy is not going to be appropriate for any complex and dynamic process.

Instead, this chapter argues that resilience theory indicates that successfully innovating governments will need to employ a number of different policy tools depending on the phase of the innovation. Some policies need to be geared to the back loop of the adaptive cycle (release and reorganization) and emphasize idea generation, the emergence of new coalitions of actors; and the ability to move quickly to take advantage of available opportunities and resources. Other policy interventions will need to be geared towards the front loop (exploitation and conservation) and be focused on establishing innovations more firmly in the system and to allowing successful innovations to grow rapidly. The difficulty for policy practitioners may be in knowing which policy option to use and when. Thus, the section on 'Phases of social innovation' will explore the characteristics of each phase in depth and present examples of policy tools to highlight their options.

## Methodology

In order to build on the phase-based model of policy and innovation developed in this chapter, a number of exploratory case studies are provided. The purpose of these examples is to populate the public policy-social innovation model with cases of actual strategies used by governments or other agencies in examples of successful policy interventions in the social innovation process. It is important to stress that these case studies are only intended to help add richness and detail to the argument, in order to help build hypotheses, and provide suggestions for further inquiry. The cases do not aim to provide firm conclusions, and it is hoped that they will lead to further rigorous empirical work. The methodological approach adopted here is best understood as an example of the explanatory case study approach described by Yin (1994).

Some of the examples are based on primary data collection conducted by one or more of the authors for previous research and case studies. These data were collected through interviews, document analysis, and participant observation in the communities and government settings

described. Rather than focusing on examples in a single policy area, the cases presented cover a range of social or ecological problem domains. Problem domains comprise the actors, organizations, and institutions that are concerned and affected by a particular complex problem (Trist, 1983; Westley and Vredenburg, 1991; 1997). This methodology places an emphasis on identifying patterns common to cases instead of focusing on a single variable as a linear, causal effect (Young et al., 2006). Given its complex and dynamic processes, social innovation involves a combination of numerous variables. Policy practitioners will not necessarily be able to adopt each policy option directly or expect to find an exact case in their own work. Rather, this meta-analysis can serve to inform practitioners of the conditions that need to be considered in social innovation and the range of policy options available in different phases or conditions.

### **Phases of social innovation and relevant policy options**

The following section describes the characteristics of the phases of social innovation in more detail as informed by resilience theory, and explores the potential policy initiatives that would be effective in the different phases. Examples are used to illustrate each.

#### **Release phase: Policy approaches for 'sense making' for complex problems and/or when no tangible innovation clearly exists**

Prior to the release phase, the problem domain can be imagined as abundant in resources, rules, and institutions. The rigidity of these structures creates homogeneity and a strong resistance to change (Scheffer and Westley, 2007), but also vulnerability due to a lack of diversity (Westley et al., 2006). If a disturbance enters the social system, such as a market crash, a natural disaster, or much less dramatically, a regular democratic election, there may be a breakdown in some existing social structures. The consequence is that resources and capital – including social, intellectual, and financial capital – are released and freed up.

In a phase marked by these characteristics, the greatest need is for new ideas and creative solutions. In this phase, people may be genuinely uncertain about 'what the right idea is' and how to make anything significant happen. In fact, many will not agree yet on the definition of the problem itself (Westley et al., 2006). With the lack of a clear problem definition and the high level of uncertainty about potential solutions that characterize this phase, policy levers that promote discussion, interaction, and social learning are useful for building knowledge

(Hämäläinen, 2007). Research has shown that new knowledge and different ideas are more likely to emerge when diverse actors that do not normally interact closely with one another are exposed to each other's ideas (Burt, 1992; Gilsing and Duysters, 2008). These findings provide a useful foundation for policymakers to consider.

To establish the mix of diverse forms of knowledge, along with the trusting environment that can be critical to the building of new relationships and to the sharing of risks often associated with innovation, public policy instruments that are most useful in this phase are those that convene different individuals or groups together. Multi-stakeholder consultations, Royal Commissions, and participatory planning processes based on models such as Future Search (Weisbord and Janoff, 2000) are all excellent examples of tools that provide a forum for sharing ideas and the range of issues that contribute to the complexity of a problem. For example, the creation of the Central Coast Land Resource Management Planning process for the Central Coast Timber Supply Area in British Columbia brought together a conflict-ridden logging industry, environmental protestors, indigenous peoples, and resource-dependent communities. The process eventually enabled a more nuanced understanding of the complexities of a situation that was not merely a profit versus environment conflict, but a social justice, community economic diversification, and cultural identity issue as well (Tjornbo et al., 2010). The outcome today is the adoption of Ecosystem Based Management practices in what is now known as the Great Bear Rainforest, and a five point deal between the different groups that fundamentally changed the flow of financial resources and the sites of authority (Tjornbo et al., 2010).

The Yukon 2000 Economic Planning Process is another example of this kind of community-based policy development process (see Yukon Territory Department of Economic Development, 1988; Northern Perspectives, 1988–9). In the 1980s, the Yukon Territory of Canada had a resource-dependent economy and had just faced the closure of its major mine, creating great uncertainty for the territory's economic future. In 1986–7, the Territory government brought together the different sectors of the Yukon economy and society – including the mining sector, indigenous peoples, environmental groups, social activists, small businesses, tourism operators, government officials, and village representatives – to set out a new plan for a sustainable economy. Meetings were held across the territory with local consultations focused on infrastructure needs and how to achieve locally controlled finance. Perhaps more importantly, the meetings brought together groups which previously had rarely met and often had antagonistic relationships (Green, 1988). The consultation



process was deemed successful, with people deeply engaged in the process and the plans for the future (Coates, 1988).

The Yukon 2000 Process had significant and far-reaching implications. A strong consensus emerged about the need for greater local decision making, territorial venture capital and development funds, and improved access to local administrative and technical support. The process bridged social, cultural, and economic gaps, providing a markedly different environment for the negotiation of land claims and the repositioning of Yukon indigenous people within the territorial order.

Eventually, the collaborations started in the Yukon 2000 meeting carried over into new and mutually beneficial discussions surrounding a new treaty incorporating indigenous concerns into economic and political planning. New programmes, such as the Yukon Economic Strategy, the Yukon Conservation Strategy and the Yukon Training Strategy, came into being as a direct result of this territorial collaboration (Yukon Territorial Assembly, 1989). But the realization that all groups shared common interests helped overcome – if not entirely remove – long-standing divisions in Yukon society, providing a very different foundation for future relationships.

The Yukon 2000 process was not responsible alone for transforming the socio-economic order in the Yukon. But the process initiated formal and face-to-face discussions that all agreed were long overdue and that provided a dramatically different foundation for internal discussions and collaborations in the territory. In many ways, the Yukon 2000 Process illustrated how frank discussion about a fairly simple question – how to diversify the territorial economy – brought to the surface the complexities and subtleties of the territorial order, resulting in a consensus about the need to work collaboratively to solve long-standing and interrelated problems (Downes, 2001).

*Proposition 1: When complex problems need to be better understood and new ideas are needed, policies that create and support processes to enable interactions and build trust between previously disconnected groups are helpful to foster new insights, new partnerships, and the generation of social innovations.*

**Reorganization phase: Policy approaches for reorganizing groups around new ideas, visions, and innovations and policies to ensure selection**

In the reorganization phase, the actual definition of the problem is far more clear than in the release phase and the result is that groups, structures, and opinions become formed and organized. In fact, this

phase marks a key transition from mere 'idea' or 'talk' to planning for implementation. People will start to cluster around the new ideas that have emerged and in groups with others who share a similar vision for the future (Van de Ven, 1986). Experiments with prototypes on a small scale or in a 'safe' space are likely to occur (Geels, 2002; Voß, 2007).

Public policies that support social innovation in this phase are those that assist innovators and newly formed groups to develop short- and long-term plans and then encourage a selection process to choose among the range of options or ideas that emerge. That is, forums for the mere generation of new ideas are not needed in this phase; rather, decisions about which innovation will be chosen and, therefore, which one should be invested in become a primary concern. One of the most significant difficulties with selection processes that governments and others face is the lack of appropriate evaluation techniques to measure social innovation and the often intangible benefits it provides. Without appropriate metrics, it becomes difficult to determine which innovation is worth moving towards the next phase. With social innovations, a single 'best' innovation to select may not be obvious – these are transformations that may dramatically shift current resource and authority flows, or norms and beliefs that are at the core of a complex social problem. The most valuable contribution a policy tool provides in this phase is to create a place where people can debate and collectively select an innovation that has emerged as the most appropriate for the relevant group of people, at that time, in that place.

Pilot projects with complete evaluations are effective in this phase. Likewise, challenges that are intended to stimulate, select, and reward innovations are also increasingly popular. For example, the 'Big Green Challenge' was hosted in 2009 in the UK to stimulate community-led responses to climate change. The potential reward was a £1 million prize and the challenge required communities to submit proposals. The organizers selected 100 of the most promising groups, and the Big Green Challenge team then provided technical support to the community groups to develop the ideas into detailed plans. From there, ten finalists were shortlisted who put their ideas into practice to compete for the prize and to reduce CO<sub>2</sub> emissions in their community. While it is still too early to determine the effectiveness of the challenge in generating socially transformative solutions, early indications are that some novel ideas emerged and that they came from communities and actors who would not normally have applied for, or led activities to, reduce carbon emissions (NESTA, 2009).

Another example was demonstrated in Japan in the computer industry (see e.g. Anchordoguy, 1989). In the 1960s, still recovering from the war and with little capital or technology, Japan decided that it wanted to build a computer industry to compete with IBM. As a means to encourage corporations to become involved and to be competitive in the industry, the Japanese government used a variety of strategies to select key innovations and build the industry around those advances. Examples of their policy choices include negotiating for patent permissions from IBM to preclude individual domestic companies bidding against one another, thereby changing the nature of national competition in terms of intellectual property. Additionally, the government devoted substantial financial resources to support seven Japanese companies to begin producing computers – again, a selection mechanism for the entrepreneurs believed most likely to succeed. As well as encouraging the companies to compete against each other aggressively, the government also sponsored co-operative research and development projects in which different companies were assigned different tasks or different approaches to solving the same problem while sharing the results. Not all of the co-operative research projects were immediately successful, but gradually Japan built a successful computer industry; this, in turn, proved critical in launching the country into the high-technology economy of the late twentieth century (Holroyd and Coates, 2007).

At the outset, the case of Japan may appear to be one of promoting technological rather than social innovations. But radical technological innovations require social conditions that enable the technological innovations to take hold, and thus, social and technological innovations are inextricably linked. In fact, social innovations may often provide the platform for multiple technological innovations (Collins, 1997). As Padgett and McLean (2006) demonstrate, the social invention of business partnerships during the Renaissance shifted certain norms and practices and enabled multiple technological innovations. Therefore, public policy options must be informed by the conditions and social reorganization taking place to understand more fully which innovations to select and support.

*Proposition 2: policies that not only motivate and reward the generation of innovative ideas but also involve an evaluation or selection process to choose among the many potential innovations that may be legitimate in the current social context is one of the more successful options for the reorganization phase.*

**Exploitation phase: Policy approaches for leveraging resources and removing barriers to achieving scale**

The exploitation phase is characterized by the need to leverage resources to support the development and adoption of the innovations selected in the previous phase.

Often by this phase, an innovation has already been successful at a local level and the goal becomes to scale out the innovation more broadly (Chappin et al., 2009). Many innovations get trapped here because they are unable to ensure support or cannot frame their innovation in a way that it appears legitimate, desirable, and needed; an essential step given that transformative innovations initially do not have an established 'social market' (Geels, 2002; Scheffer and Westley, 2007). Without sufficient resources devoted to these innovations, many never get past the pilot project stage.

Therefore, this phase places less demand on the actual process of innovating and instead emphasizes the need to address any structural barriers to the innovation. Structural change will typically require resources and a source of authority or power that may not previously have existed for those seeking the change (Mulgan and Albury, 2003). Scholars studying social movements, networks, the relevance of social capital, innovation in the private sector, or the increasing role of a range of actors in governance all provide useful insights as to how different people and groups may seek to gain access and legitimately leverage new resources in certain circumstances (e.g. Ernston et al., 2008; Bodin and Crona, 2009). But public policy can also proactively support social innovation and the necessary structural changes. Policymakers may aim to reduce a range of uncertainties that serve as barriers to different actors, for example uncertainty about: available resources; the feasibility of adopting the innovation; the relationship between the innovation and the structures in which it will become embedded; or the risk perceived by both the innovators and adopters (Van de Ven and Polley, 1992; Meijer et al., 2007).

Government incentives for environmental technologies – such as hybrid cars, geothermal heating systems, or water and energy efficient appliances – are good examples of policies that may be useful within this phase because these incentives help to create a market for innovations that are already established or invented (e.g. Braun and Wield, 1994). Policies in this phase are not intended to support the innovation in the phase when it was first trying to create a hybrid car but, rather, support its adoption. In fact, a growing body of research has demonstrated that regulations, taxes, and market mechanisms do not encourage the generation of innovations but may encourage their adoption (Chappin et al., 2009).

While this phase may sound less difficult than some of the other phases, it requires governments to have a strong capacity to adopt innovations. In many cases, the innovation may not have come from within that specific geographic region but rather is the result of external efforts. The capacity to recognize these innovations, adopt them in a timely fashion, and adapt them as needed to the local context is referred to as the 'absorptive capacity' (Cohen and Levinthal, 1990).

An example of a policy attempt to reduce uncertainty and remove structural barriers to ensure adoption is provided by Japan's major recycling initiatives. As the host of the international consultations that led to the Kyoto Protocol on Climate Change, Japan has taken its environmental commitments to heart (Holroyd, 2009). In a series of measures, some of which predated the 1997 accord, the government of Japan undertook steps to address energy consumption, encourage recycling, and otherwise decrease the nation's environmental footprint. These policy initiatives have ranged from procurement changes, regulations, and subsidies to high-profile leadership actions by key national figures, including former Prime Minister Koizumi. Recycling efforts, which have enjoyed considerable success in Japan, are among the most high-profile initiatives (Holroyd, 2009).

The Basic Law for Establishing the Recycling-Based Society, which went into effect in 2000, established a framework for both recycling generally (source reduction or waste prevention, reuse, recycling, energy recovery, appropriate disposal) and extended producer responsibility (EPR) for the recycling of the products and services they produce (Yamaguchi, 2002). A Home Appliance Recycling Law went into effect in April 2001, and stipulated that manufacturers and retailers of home appliances – specifically air conditioners, refrigerators, televisions, and washing machines – are obliged to take back appliances for recycling. Previously, retailers did not accept the return of used appliances, which created a barrier for consumers who were willing to recycle. Manufacturers were consulted extensively while the law was being developed so that they had ample time to redesign their appliances to ensure they could easily be disassembled. The Home Appliance Recycling Law put responsibility for the recycling of these large appliances clearly in the hands of the producers, and gave them a time frame in which to deliver a recycling system that would meet government standards (Ueno, 2002). Together, this created a new legal framework about the responsibilities for recycling and waste. Policy initiatives also channelled efforts and resources specifically into this socially and environmentally innovative area. Eventually, regulation led Japan to become an international leader in recycling and waste diversion (Karpel, 2006).

*Proposition 3: Policies that enable social innovation and innovators to access resources – including social, intellectual, and financial capital – are critical to scaling out innovations from local successes to broader systemic change. Policies that create a market or demand for the innovation – whether it is an idea, programme, or technology – are necessary. These policies often involve proactively addressing structural barriers to social innovation, but must be very specific so as not to open opportunities for negative or needless exploitation of scarce resources.*

**Conservation phase: Policy approaches for institutionalizing the innovation, scaling up, and preparing to be resilient in the face of the next disturbance**

During the conservation phase it becomes imperative both to continue the process of completing the existing innovation cycle, and to consider what may happen next, what needs to be adjusted, what consequences and implications have occurred and how best to respond. Therefore, this phase involves two important aspects of the social innovation process: (a) the need to institutionalize and possibly scale up the innovation; and (b) the need to invest in developing the next innovation and prepare to be resilient in the face of the next disturbance.

With regard to the former, social structures that support the innovation need to be established whether this involves certain norms becoming accepted, institutions being created, or regulations being established (for further discussion on social structures, see Giddens, 1979). The specialization of skills, along with the productivity and efficiency of the new programme, product, or initiative, and the social relationships involved, will need to be strengthened and become stabilized (Hämäläinen, 2007). While the freedom for further innovation tends to be negatively affected by the institutionalized nature of this phase (e.g. Braun and Wield, 1994; Chappin et al., 2009), it is equally important for achieving system change as the initial openly creative process.

As the social innovation matures, it may be the most opportune time to determine if the innovation can be scaled up from one successful implementation to other regional or national settings, thereby affecting an even broader system or problem domain. One example of a policy that supports seeking opportunities to scale up innovations involves the government-funded University of Waterloo's International Tobacco Control [ITC] Policy Evaluation Project (Fong, 2006). The project conducts survey research to analyse the effectiveness of anti-smoking policies in various countries, which can inform policy adoption in other countries where comparable policies do not yet exist and smoking rates are still

very high. The ITC project first receives a guarantee from the government of the country in question that it will implement the research-based recommendations before the research begins (see [www.ITCproject.org]). Research is then co-ordinated between the central ITC operation and national research institutions to provide local input into the policy development process. In this way, successful innovations may be scaled up but not as a simple policy transfer or mirror adoption. Rather, the ITC seeks to adapt existing practices and policies from different contexts to fit the particular national and/or cultural situation (Fong, 2006).

With respect to investing in the next innovation, it must be recognized that given the nature of the complex problems that these social innovations are designed to address, there will be unforeseen consequences and implications which will create new issues or areas of concern. Additionally, priorities will shift once one problem has begun to be addressed. Thus, at this stage, government policy will want to examine whether other innovations are needed and to begin to understand the complexity of new problems being faced. A real tension exists at this point, given that the more successful an innovation is, the less likely people are to focus on new ideas, needs, and opportunities (Van de Ven, 1986). One approach is that adopted by the Canadian Social Sciences and Humanities Research Council (SSHRC) special project fund which both analyses what has happened and tries to anticipate what will happen next in terms of allocating its funding. The creation of the Forward Scanning Group in the Policy Research Initiative in Canada, whose primary purpose is to analyse trends and develop future scenarios to explore policy strategies, is also a potentially valuable approach. However, the group needs to remain well informed of any current innovation processes in the sector or subject it is analysing to ensure the research focuses on phase-appropriate analysis.

*Proposition 4: In this phase, policies that help analyse what has occurred and which new policy priorities have emerged as a result of the innovation are important, along with investing in possible social innovation that will build capacity to be resilient in the face of future change.*

### **Putting it all together**

It may be useful to look at the role of public policy through the entire cycle of one social innovation. During the case example described below, and throughout any of the examples provided in this chapter, it must be emphasized that public policy is not the only factor critical to

the generation, selection, adoption, and institutionalization or scaling up of social innovations. Indeed, the emphasis on complexity by resilience theory enables one to consider the full suite of social, economic, political, and environmental factors that comprise any complex problem domain. However, this chapter has focused on public policy as the key contextual factor in order better to understand the relationship between social innovation and the role of policy within different phases of the innovation process.

The full social innovation cycle can be explored through an examination of the policies that promoted economic development for the Inuit in the Arctic in the 1950s. During that decade, starvation and hardship led to a situation where life on the land was no longer viable for Inuit peoples – it had become difficult to find wage labour, no clear economic alternatives existed, and there was a dire need for an option other than perpetuating dependency on the Canadian federal government. Few viable alternatives presented themselves beyond traditional harvesting, which was in decline, and occasional/seasonal wage labour, which was uncertain. The worsening conditions served to break down some of the existing social structures – those that provided wage labour for instance. Consequently, the Inuit communities along with the government entered a release phase. The government created a policy to determine the issues that were at the crux of the difficulties and to find economic development ideas for the Inuit: a process described as creating opportunities for ‘learning by searching’ and ‘learning by interacting’ (Meijer et al., 2007).

Within this phase, government action was led by a civil servant named James Houston who played a pivotal role in identifying and developing the possibilities for transforming the local livelihoods to include art. Houston was an artist and writer, working as a Northern Service Officer, assigned to the Eastern Arctic. He worked with Inuit artists, whose work had previously been seen as only cultural curiosities, and made connections between northern communities and southern galleries (Houston, 1995). The Government of Canada, eager to find an alternative to the faltering subsistence economy in the Far North, supported the effort, hiring Houston to expand the programme. Inuit sculpture and, later, printmaking attracted global attention, again with significant government investment. By the early 1960s, and largely due to Houston’s engagement as a champion, Inuit art had been established as a major cultural and commercial phenomenon (Graburn, 1987).

During the reorganization phase, and as a result of the support for the concept of art as a livelihood, the government created policies that



promoted the development of art and sent a clear signal that this vision had been selected as the innovation that would be attempted for now. Examples of the policies included subsidies for promotional efforts and for initial sales, as well as the development of training programmes throughout the North. This clear signal reduced some of the uncertainty about whether Inuit art as an economic development plan was feasible, and helped enable the success of the model throughout the North by creating more secure markets to allow new artists to engage. Arts had to be connected with galleries, and the galleries had to cultivate a substantial and sustainable market. With Houston in the lead, and supported by government funding, the artistic community fostered collectors' interest in Inuit carvings. The process moved with dramatic speed, as Inuit artists developed and displayed a remarkable ability for commercial art and a global market emerged for their soapstone carvings and prints. The challenge, of course, rested with connecting Inuit artists to an international market; the small and remote Inuit communities lacked international business experience to develop sustainable operations (Graburn, 1997). Thus, the exploitation phase involved the Government of Canada developing policy to assist with international marketing activities and leverage support from the Canadian co-operative movement, which provided an opportunity for the Inuit to form their own artistic co-operatives in most of the artistic communities. This, in turn, enabled the innovation to mature and move into the conservation phase as it stabilized artists' incomes, allowed for economies of scale to develop in everything from the purchase of supplies and artist training to shipping and marketing. Communities, particularly Cape Dorset and Holman, and even individual artists became internationally known and able to earn substantial and sustainable incomes (Crandall, 2000).

The Inuit proved just as adept at the management of co-operatives as they were at the creation of Inuit art. With the government of Canada providing most of the capital and operating funds at the early stage, and with professional assistance from the Canadian and international co-operative movement, the Inuit quickly established a network of viable co-operative stores and related operations across the Arctic (the evolution and impact of the Inuit co-operative movement can be traced in Duffy, 1988; Coates and Powell, 1989; Hamilton, 1994). Government and external co-operative organizations placed a great deal of emphasis initially on the training of managers, ensuring that local expertise emerged in very short order to run the increasingly complex and substantial commercial operations (Ketilson, 2004). These steps

were all important to facilitating the transition from the exploitation to the conservation phase. Inuit art served as an important element in the commercial viability of the broader co-operative movement, as the co-operative system expanded into other sectors, including retailing, transport, energy supplies, and tourism. Within two decades, the Arctic co-operative movement had emerged as one of the more successful indigenous adaptations to the twentieth-century economy (Young, 1995; Ketilson and MacPherson, 2001).

The conditions created by this innovation enabled the community to undertake further innovations. Perhaps most significantly, the co-operative initiative that combined Inuit artistic activity and local community development became the foundation for Inuit political organization and legal mobilization. Training through the co-operatives developed a region wide network of talented, motivated, and entrepreneurial leaders, many of whom became key figures in Inuit politics in the 1970s and onward. Furthermore, the region wide gatherings for co-operative meetings generated the solid personal connections needed to mobilize Inuit discontent with political, legal, and economic relations. The connections forged during the Art co-operative movement later came to underpin the Inuit land claims and autonomy movements, and created a disruption in the system which moved it into the next release phase. The new interactions in the release phase brought together the two initiatives and the settlement of the Inuit land claim. Moving through the remaining phases of the social innovation cycle, this ultimately led to the creation of the new territory of Nunavut in 1999, an Inuit-controlled jurisdiction in northern Canada. What started as a means of creating employment in isolated communities and meeting regional retail needs became, in fact, the foundation for political mobilization and the transformation of the Canadian Arctic into one of the most innovative indigenous political and economic regions in the world.

## Conclusion

Certain policy instruments will have greater impact at specific points in the social innovation process. Recognizing that distinct phases of social innovation exist is central to understanding which policy will be most suitable to supporting the process; that is, different policies are appropriate for the generation, selection, adoption, and institutionalization processes that any social innovation will need to undergo. This chapter has argued that phase-appropriate government interventions

facilitate social innovation, and has used resilience theory to explain the characteristics of each phase and to demonstrate that an active role for government is entirely possible and even necessary.

Using a variety of case studies from different problem domains, this chapter examined empirical examples to support the theoretical framework presented. Ultimately, the examples demonstrated the patterns and characteristics described by the phases of adaptive cycle. Four propositions were put forth that outline policy options to support the different phases of social innovation. In doing so, this chapter made a significant contribution by building a deeper understanding of the intricate relationship between public policy and social innovation than has previously been discussed in the social innovation and entrepreneurship literature. Much of the scholarship in the past has focused on innovations that are neither transformational nor systemic in their impact. Likewise, the literature has historically emphasized the role of governments as the primary financial supporters of research and development in the technology sector, which has limited the analysis of the range of policy tools available. Furthermore, although scholars have previously recognized that innovation processes may follow a cycle, the practical realities of aligning policy tools with specific phases of the innovation process has yet to be addressed.

Recognizing that while other factors do contribute to the context in which social innovation may occur, the conceptual framework presented here brings to bear the co-evolutionary nature of policy choices by governments and the social innovations that emerge in various problem domains. Policies influence a system's preparedness for the need for social innovation and then for its generation, selection, adoption, and institutionalization. In turn, the innovation itself affects the type of policy responses that are required by the public sector.

Any scholarly effort has limitations and this chapter is no exception. Adopting a comparative perspective to examine existing cases is difficult given that the methodological approach is not a conventional, quantitative analysis with common techniques to ensure rigour and reliability. But social innovations themselves – as complex, emergent, and nonlinear events that involve multiple actors and multiple scales across time – are not well suited to traditional techniques (Mumford, 2002). Furthermore, a more conventional outcome of such a study may be to recommend a well-defined macro policy framework with specific policy tools listed for each phase. Instead, the outcome of this chapter's analysis is a description of the characteristics of each phase of the social innovation process. However, the chapter is intended to better prepare

policy practitioners to recognize similar patterns in their own decision making without reducing the complexity of this process to formulaic problem-solution management approaches. This methodological technique has been recognized as an important tool for analysing complex social-ecological problems previously (Young et al., 2006) and rigour can be improved with more detailed analyses in the future.

Moreover, future research could examine whether certain defined indicators exist that could help governments to more clearly determine how and when to know which policy lever is most appropriate to employ. While some research has begun to explore how policy instruments can be combined (e.g. Foxon and Pearson, 2008), an understanding of the dynamic interaction of multiple policies and innovations will better inform the process of determining phases and selecting phase appropriate policies. Ultimately, the exploration and debate of possible public policy reforms for social innovation has only just begun.

## Notes

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1. The term 'scaling out' is used in the exploitation phase to refer to the replication of the same innovation in several different locations. The term 'scaling up' is used in the conservation phase to refer to moving an innovation into a broader system. Quite often, to effect transformative change in a broader system, the innovation will be reconfigured into an entirely new form to suit that context. For instance, the PLAN Institute of British Columbia scaled out its original innovation of creating support networks for children with disabilities, setting up networks for different families in numerous locations around the world. However, when it wanted to scale up its innovative thinking to a broader system about how society could provide long-term security for people with disabilities, the social innovation required different tools and involved new legislation and new economic instruments, including the Registered Disabilities Savings Fund. The perspective suggested by this chapter contends that the local networks and the national policies are all part of scaling up a single social innovation.

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