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This dissertation titled

Communicating Complexity: A Complexity Science Approach to Communication for

Social Change

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Abstract

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This study aims to contribute to the theoretical development and the effective practice of Communication for Social Change by exploring the application of the principles and ideas of Complexity Science to Communication for Social Change endeavors. The study provides a theoretical framework for the analysis of Communication for Social Change initiatives and presents guidelines for organizations, including both practitioner organizations and donor agencies, interested in using Complexity Science principles and ideas to inform their Communication for Social Change strategies.

The study employs an interpretive approach and an instrumental case study method of inquiry. Five principles distilled from the literature on Complexity Science are used to identify examples from the work of Puntos de Encuentro, a feminist, non-profit organization working in Communication for Social Change in Central America, in order to illustrate how Complexity Science principles can be applied to Communication for Social Change strategies and to explore possible challenges and implications, for organizations working in the field of Communication for Social Change, of applying these principles in their work.
The major conclusions and insights of the study are, first, that Complexity Science can provide social change organizations, development agencies, donors, scholars and policy makers with a useful framework for addressing complex social issues and it may make Communication for Social Change strategies more effective at creating social change, and second, that Communication for Social Change strategies need to be supported by organizational cultures that guarantee a shared vision and directions and promote power decentralization, self-organizing and innovation as this is what provides organizations with the level of flexibility and adaptability required by a continuously changing environment. The study concludes with a set of recommendations that aim to serve as guidelines for Communication for Social Change practitioners and donors when approaching complex social issues, as well as suggestions for future research.
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Chapter 1: Introduction

This study aims to contribute to the effective practice of Communication for Social Change by exploring the application of the principles and ideas of Complexity Science to Communication for Social Change endeavors. It reviews the literature on Complexity Science and illustrates possible interpretations and applications of Complexity Science principles and ideas to the Communication for Social Change field through the work of Puntos de Encuentro, a Nicaraguan, feminist, non-profit organization working in Central America.

The study seeks to help organizations design their social change interventions in a more systemic way. Thus, its purpose is to provide a theoretical framework for the analysis of Communication for Social Change initiatives and to provide guidelines for organizations (including both practitioner organizations and donor agencies) interested in using Complexity Science principles and ideas to inform their Communication for Social Change strategies.

Complexity Theory has been applied in both the natural and social sciences. The literature on the contribution of Complexity Science to the fields of International Development and social change and International Aid policy is slowly growing. However, a review of the literature shows that little has been said about the application of Complexity Science to the field of Communication for Social Change.

This study is divided in five chapters. Chapter 1 introduces the rationale for the study and describes both the organization that serves as the illustrative case study and the reasons it was chosen to illustrate this theoretical perspective on Communication for
Social Change. The chapter also explains the author’s current and past relationship with the organization and her role as researcher.

Chapter 2 reviews the literature on Communication for Social Change, the paradigm shifts that are occurring in this field and the treatment of Complexity Science concepts in the Communication for Social Change field. It then surveys the literature on Complexity Science, focusing on what it is, the characteristics of complex adaptive systems (namely how they function and change) and its potential contribution to the fields of International Development and social change.

Chapter 3 presents the study’s two overarching research questions and discusses the research methods used for data collection, coding and analysis. This chapter also describes the scope of the study, the research process and the criteria used for participant selection.

Chapter 4 consists of an exploration of the study’s guiding research questions and discusses five key Complexity Science principles as applied to the Communication for Social Change field, as illustrated by the case study. The discussion focuses both on how Complexity Science informs the design and implementation of Communication for Social Change endeavors and on the implications of a Complexity Science approach to Communication for Social Change, in terms of approaches to planning and evaluation, some of the paradoxes and tensions that arise during program implementation and organizational culture.

Chapter 5 summarizes the main findings and provides a series of recommendations for practitioner organizations and international donors interested in
further exploring the ways in which Complexity Science principles and ideas can be applied to the design, implementation and evaluation of Communication for Social Change strategies. The chapter ends by discussing some of the limitations of the study and avenues for future research.

**The Need for a Paradigm Shift**

"We can't solve problems by using the same kind of thinking we used when we created them."

~ Albert Einstein

The Map Master

There was a time when it was helpful to think of the leader as a traveler in a civilized land. Every potential route was charted, and the leader's job was to select the map that matched the territory and to share it with...[the team]. The job of the ... [team members] was to follow the prescribed trails and to arrive at their expected destinations on time and within budget... If followers discovered the map they'd been given didn't match the real terrain, they simply returned to the leader's tent and requested a new map. The leader would then go to the map drawer to select a better guide or trot over to the leaders' leader's tent and request a new atlas. If the right map couldn't be found in the corporate library, a consultant was hired to provide a whole new set of maps. Everyone believed that someone, somewhere had the right map and all we had to do was to search until we found it.

At some point, this belief began to fade. Too often, we came to the conclusion that no one had the map we needed, and slowly we realized we were traveling in the wilderness. Well, that's okay, we thought. All we need to do is to scout out the territory and chart it. By creating new maps, we will extend our atlases and expand our libraries, and through this, we will be working in civilization again. These were the days of mission and vision statements, ... [best practices, team empowerment and logic frameworks]... When the cartography was complete, we expected to be able to return to the old world of predictability and reliable planning and execution...

Slowly but surely, this myth, too, is beginning to fade. Some ... [leaders] in some organizations are realizing the problem is not the maps at all. No matter how many maps we have, and no matter how much detail we include in them, they will never be able to represent the reality in which we work. The source of our problems ... lies in the territory itself. The world in which we travel is not only uncharted; it is unchartable.... it evolves from moment to moment in surprising and unpredictable ways. Any attempt to freeze and explain a current state is destined to fail because at the next moment a new reality will emerge,
which might bear little resemblance to any previous state. Not only must we
discard our old maps, but we must give up the vain activity of cartography… but
what is the alternative? Must we resign ourselves to working in the dark,
constantly feeling our ways through complicated topography until we are all
hopelessly and helplessly lost? No, we can change our expectation of reality and
search for other guiding tools and principles to allow us to make productive
decisions in spite of overwhelming uncertainty. (Eoyang, 1997, pp. 4-5)

Both the quote from Einstein and the Map Master metaphor from Eoyang (1997)
speak to the current challenges in Development and social change. For more than five
decades well-intentioned organizations and governments have invested resources and
embarked on a range of initiatives to bring about development and create more just
societies. Science has contributed to these efforts; however, many questions remain about
Development and social change. For example, how do Development and social change
happen? How are they brought about?

Since World War II, particularly after the success of the Marshall Plan in the
rebuilding of post-war Europe, the field of Development has grown considerably. In the
1950s and 60s, development meant a type of social change in which new ideas were
introduced in order to raise per capita incomes, increase gross domestic product and
provide higher living standards through more modern production methods,
industrialization, trade liberalization, and economic reforms (Rist, 1999). Under
Modernization, as this paradigm is commonly called, communication efforts focused on
the extensive use of mass media to effect changes at individual and collective level
(McQuail, 2005). Over the past few decades, the rise of participatory, or pluralistic,
development practices has increasingly turned attention to enhancing human potential
and working toward improving people’s quality of life. Under this paradigm,
development is defined by its beneficiaries, or participants, and includes not only economic, but social, educational and cultural development which together promote bottom-up, contextualized, culturally appropriate and people-centered processes that provide opportunities for, and empower the most marginalized to have more control over their own lives (Melkote & Steeves, 2001; McQuail, 2005). Likewise, the role of communication in development is no longer merely the transmission of information and ideas for Development and social change, but the means through which people gain control over their lives. Communication is considered to be a catalyst for change rather than the sole cause, and the emphasis has changed from mass media to “appropriate” media, in line with a people-centered approach to communication (Melkote & Steeves, 2001). The participatory (or pluralistic) paradigm represents a more holistic vision of social change.

Social change practitioners have come to view social change as a non-linear, long-term, and often unpredictable process requiring efforts at multiple levels. However, this new approach to Development has still not guaranteed meaningful and sustainable social change. In spite of the efforts to approach social change from a more inclusive and participatory perspective, responses to social issues are still constructed in a linear fashion.

Today, most organizations, including both grant-makers and practitioners, continue to frame their strategies primarily in measurable, cause-and-effect terms as if their programs can, on the one hand, be evaluated in isolation from other efforts and, on the other, indeed demonstrate effectiveness in the short-term. This paradox characterizes
the field of Communication for Social Change. Because communication and social change involves people and because people interact both with each other and with their environment in unpredictable ways, attempts to assess program effectiveness miss their mark when social change is construed as a predictable, linear process. As Gumucio-Dagron (2003) explained when he coined the term “cemetery of development”, the numerous failed attempts to bring about lasting and meaningful social change are urgent reminders that Development and social change need to be re-envisioned.

Several authors (Bar-Yam, 2004a; Fowler, 2008; Westley, Zimmerman & Patton, 2007) have agreed that most theories and methods of communication research, and the social sciences in general, are rooted in the Newtonian scientific paradigm and its “machine metaphor”. Newton understood the world as a machine, where the whole was the sum of its parts, and where by dissecting and understanding discrete parts, one could understand the basic external and universal rules or laws that determine how the parts behave (Bar-Yam, 2004a; Fowler, 2008; Westley et al., 2007).

Similarly, Boudon (1983) has argued that scientists have developed theories based on mental constructs derived from the study of macroscopic regularities, which are erroneously operationalized as empirical “laws” about social change, instead of being taken as models that can be applied to social systems, while being open to the possibility of contradictions, inconsistencies and paradoxes.

The machine metaphor is attractive because machines are simple and predictable, and thus, this thinking provides the sense of control, stability and security, so yearned for by human beings. This approach assumes that detailed planning, resistance to change and
efforts that reduce variation will lead to better performance, and thus, it implies that planning things more carefully and in more detail will deliver the desired outcome (Westley et al., 2007; Zimmerman, Lindberg & Plsek, 2001).

The assumptions of the machine metaphor work well with problems in which there is a high level of predictability and control over the outcomes. However, this approach fails when it comes to attempts to engender social change, as social dynamics are not complicated, but instead complex phenomena. Glouberman and Zimmerman (2002) have explained the difference between simple, complicated and complex problems:

For addressing simple problems – take cooking for instance – a recipe of various ingredients is essential. It is often tested to assure easy replication without the need for any particular expertise. Recipes produce standardized products and the best recipes give good results every time. To address complicated problems, like sending a rocket to the moon, formulae or recipes are critical and necessary, but are often not sufficient. High levels of expertise in a variety of fields are necessary for success. Sending one rocket increases assurance that the next mission will be a success. In some critical ways, rockets are similar to each other and because of this there can be a relatively high degree of certainty of outcome. Raising a child, on the other hand, is a complex problem. Here, formulae have a much more limited application. Raising one child provides experience but no assurance of success with the next. Although expertise can contribute to the process in valuable ways, it provides neither necessary nor sufficient conditions to assure success. To some extent this is because every child is unique and must be understood as an individual. As a result there is always some uncertainty of the outcome. The complexity of the process and the lack of certainty do not lead us to the conclusion that it is impossible to raise a child. (p. 6, emphasis added)

Thus, simple and complicated problems are, to a greater or lesser degree, knowable; initial uncertainties or unknowns can be resolved a priori, while complex problems are hard to predict and control, as they are non-linear, adaptable and heavily influenced by context. Therefore, attempts to apply universal laws to what are not
complicated, but instead complex issues of development and social change do not work, mostly because the solution or approach does not match the complexity of the problem at hand (Bar-Yam, 2004a). Simple problems, with low complexity, can be solved both efficiently and effectively using processes that are piecemeal, top-down and based on past experience. In contrast, the solutions to complex problems are found through iterative and participatory processes of doing and learning.

Bar-Yam (2004a) has argued that in order to solve a problem, the complexity of the problem should never exceed the complexity of the solution. The first challenge, therefore, is to identify the level of complexity of the problem at hand. The level of complexity of a problem or phenomenon depends, among other things, on the degree of agreement on the solution and the degree of certainty regarding outcomes.

As explained by Kahane (2004), social issues are generally complex in one of four ways: (1) “dynamically complex”, meaning that the cause and effect are separate in time and space and therefore difficult to perceive from firsthand experience; (2) “generatively complex”, meaning that the situations unfold in unfamiliar and unpredictable ways; (3) “socially complex”, meaning that the people involved in the issue have different opinions, values and perspectives and thus, problems become polarized and stuck; or (4) a combination of the above. It is very likely that successful social change endeavors are ones that have dealt with a combination of simple, complicated and complex problems by addressing each problem according to its level of complexity.

Complex problems, including social change endeavors, are generally unsettling “…because their characteristics are not reducible to their constitutive parts. When solved,
the solutions do not function as recipes, which can be applied to others like problems” (Glouberman & Zimmerman, 2002, p. 7). Despite this, social change is often approached as if it were a complicated problem, or in other words, an issue that can be solved with detailed plans and sufficient expertise.

Glouberman and Zimmerman’s (2002) analogy of raising a child is a great example for illustrating the complexities of planning for complex social change endeavors and the contradictions inherent to current approaches. No parent in her right mind would think about creating a detailed plan, with a log frame, indicators of success and everything in between as her strategy for raising a child, and then apply it stickily for the following two decades and nobody else (e.g. health care providers, teachers, community members, government) would make her accountable to that plan. Society knows better. Society knows that, no matter how many children one has had or how experienced and skilled the parent is, each child is unique and will be shaped by a combination of factors, contexts and relationships throughout her whole life. The best one can do is to have a clear vision of what one would like to achieve and some basic requirements (must-do’s and must-not-do’s) to guide everyday decisions and then play it by ear, monitoring the child’s development and adapting strategies accordingly. Challenges are expected and solutions are sought as the challenges arise. The paradox is that while parents are not expected to have a lineal, scientifically proven approach to childrearing, most non-governmental organizations, donors, governments and development scholars expect and are expected to have one in order to change a whole society. In both cases, planning is needed, it just need to be a non-linear, determinist plan.
Complexity Science provides a framework for understanding complex issues like social change. It provides insights into how complex social systems function and change by focusing on aspects of living systems that are neglected or overlooked in traditional approaches to social change, such as the unpredictable, disorderly and unstable nature of organizations and societies.

The idea of understanding and approaching social change as a “complex” phenomenon through the application of system-thinking principles and concepts is gaining popularity in the field of social change. There is a growing interest from scholars (e.g. Allen, 2003; Bar-Yam, 2004a, Boudon, 1983, Chambers, 1997; Fowler, 2008; Jones, 2011b; Kahane, 2004; Lacayo, 2008; Ramalingam & Jones, 2008; Westley et al., 2007), international development agencies and institutions (e.g. Ford Foundation, International Network of Women’ Funds, Kellogg Foundation, Rockefeller Foundation, Social Justice Philanthropy Working Group and World Bank,) and other organizations (e.g. Alas de Mariposa, American Evaluation Association, Coevolucion.net, Femme Fractal, Global Systems Initiative, Human Systems Dynamics Institute, Overseas Development Institute, Panos London, Plexus Institute and The Center for Complexity Science) in exploring Complexity Science and the application of its principles and ideas to the design and evaluation of social change initiatives.

Nevertheless, the application of Complexity Science theories to the social sciences is fairly new. More research is required to, on one hand, help translate Complexity Science concepts, extensively explored in other fields such as mathematics, physics and biology, into ideas, tools, guidelines and methodologies that allow policy
makers, scholars and practitioners to experiment in the design and evaluation of social change interventions (Chambers, 2008; Fowler, 2008; Ramalingam & Jones, 2008), and that on the other, to illustrate the practical application of Complexity Science concepts to social change initiatives and discuss the resulting implications for institutions, practitioners and donors (Fowler, 2008; Ramalingam & Jones, 2008). This study is an attempt to make a meaningful contribution to these gaps.

**Purpose of the Study**

The purpose of this study is to contribute to both the literature and the field of Communication for Social Change by discussing Communication for Social Change from the perspective of Complexity Science and illustrating the application of key concepts and ideas with examples from the approach to Communication for Social Change employed by Puntos de Encuentro, a non-profit organization working mainly in Central America. In part, this study responds to the conclusion, by Johnson (2009) that, “We yet don’t have a fully-fledged ‘theory’ of Complexity…. Complexity Science is still being developed and its potential application explored” (p. x-xi).

The second, more practical, purpose of the study is to use the analysis to provide a set of insights and recommendations that invite Communication for Social Change organizations, and the international development community in general, to explore the application of Complexity Science principles and ideas in their work.

The literature on Complexity Science is vast and diverse, with multiple interpretations of its theories and concepts. Thus, this study combines the literature on Complexity, with data from field work, and personal knowledge and reflections in order
to explore concepts, analogies and relationships and put forward working concepts, categories and hypotheses that can be subsequently tested for practical utility in the Communication for Social Change field.

A review of the literature reveals that this appears to be the first in-depth attempt to study the application of Complexity Science principles and ideas – and discuss the resulting implications – in the Communication for Social Change field. Researchers are invited to undertake similar studies to challenge or enhance this analysis.

The following section describes Puntos de Encuentro, the organization that serves as the illustrative case study, including its vision, mission, programming, origin and evolution and approach to social change, and explains the context in which the organization operates. It also addresses the reasons why Puntos de Encuentro’s work provides examples that may illustrate the principles discussed in this dissertation, despite the fact that the organization did not purposely design its communication strategy on the basis of Complexity Science theories.

**Description of Puntos de Encuentro**

Puntos de Encuentro [Meeting Points or Common Grounds] is a feminist, non-profit organization, registered and based in Nicaragua, which believes in the important role of communication, research, and education in fostering social change.

Puntos de Encuentro (Puntos, hereafter) emerged out of the reflections of a group of Nicaraguan women at the end of the revolutionary decade of the 1980s, which sought to create a space for the analysis and transformation of the unequal power relations that permeate Nicaraguan culture, society, politics, and public and private life. While the
founders were all women, they recognized the importance of working alongside men and the necessity of adopting a generational approach, sensitive to the discrimination faced by young people in society and at home.

The organization’s institutional goals have evolved over time, although its core goals have remained fairly consistent. In general, Puntos has sought to: (a) promote social dialogue by influencing the issues discussed in the public sphere, how those issues are discussed, and who participates in the discussion; (b) link the personal and public sphere so that the analysis of personal experiences promotes and improves collective action; (c) strengthen individual and organizational leadership capacities, especially among women and youth; (d) promote the construction of social movements by encouraging alliance-building between organizations and their collective actions; (e) promote formal and informal social support systems for individual and collective action; and (f) develop and use mass media programming to influence public opinion, promote critical thinking, and encourage changes in attitudes and behaviors that engender more equitable relationships (Bank, 1997; Puntos de Encuentro, 2006).

Founded in 1990, Puntos has grown from a small organization that produced a mimeographed women’s magazine and participated in modest public education campaigns into an internationally renowned developer of mass media programming and implementer of training activities aimed at challenging traditional norms and dominant discourses on women’s and young people’s equality and fostering systemic social change on a range of issues. Puntos is particularly well known for its television drama series, its radio programming, its feminist magazine, its training materials, its public education
campaigns and its leadership development programs aimed at activists. Puntos’ media and training activities provide a platform where disparate individuals and groups are able to discuss women’s and young people’s rights and share experiences, which then leads to the identification of common ground and in turn, creates momentum for social change.

In 2001, Puntos began to produce the first fictional television series in Nicaraguan history, “Sexto Sentido” [Sixth Sense], which portrayed a series of young people and addressed taboo issues like sexual preference, sexual abuse and HIV-AIDS. The series quickly became the most popular show in its timeslot (which was Sundays, 5:00 to 6:00 PM), and nine out of ten people interviewed knew of the program (D’Angelo & Welsh, 2006). Sexto Sentido TV has gone on to win many awards and be broadcast in many countries. In 2012, Puntos launched a second series called “Contracorriente” which deals with family dynamics and the impact of macroeconomic factors on family life, again from the perspective of young people.

Puntos began using radio in 1992 and the organization’s first program achieved top ratings within its first year on air. During the 2000s Puntos produced Sexto Sentido Radio, a nightly youth-talk radio program broadcast live on nine Nicaraguan radio stations and via the Internet, reaching more than 25,000 listeners (D’Angelo & Welsh, 2006). Now called DKY FM, Puntos’ radio program is currently broadcast live on five Nicaraguan radio stations.

Since its founding, Puntos has produced La Boletina, a quarterly feminist magazine with national circulation designed to allow information to circulate among the women's movement in Nicaragua. La Boletina began as a four-page, mimeographed
newsletter aimed at creating exchanges among the dozens of newly formed independent women’s groups movement in Nicaragua that were popping up all over the place after the defeat of the Sandinista government in 1990. La Boletina is now the print magazine with the largest circulation in Nicaragua (Puntos de Encuentro, 2008) and is widely considered the country’s foremost publication about women’s movement issues. It is distributed to more than 1,000 women’s groups in Nicaragua by a volunteer network and is read online by tens of thousands of people internationally (D’Angelo & Welsh, 2006; Puntos de Encuentro, 2008). The publication addresses a variety of subjects relevant to women's lives and to women’s groups and organizations and is written in simple language so that it can be ready by and understood by women with third grade education. Women’s groups often use the magazine as educational material to promote study circles, discussion groups, and workshops. The magazine has also been used in adult literacy programs and popular education initiatives and as a tool to establish and strengthen connections among women and other groups. Some consider La Boletina Puntos’ most important contribution to the Nicaraguan women’s movement (Carrión & CIET Internacional, 1996; Rivera, 2000).

Puntos has produced a range of training materials, for the most part Sexto Sentido TV special edition, audio-visual packages that addressed issues being raised by the TV series and in other media. These packages generally include discussion guides to be used by local organizations. In addition, Puntos also produces a range of issue-based publications and research studies on topics relevant to the women’s movement.
Evaluations indicate that these materials are highly valued by partners (Carrión & CIET Internacional, 1996; Rivera, 2000; Portocarrero, Jaén & Antillón, 2012).

Puntos has also produced many public education campaigns, including the 1999 campaign directed specifically at men, “Violencia contra las mujeres: Un desastre que los hombres SI podemos evitar” [Violence against women: a disaster that we CAN avoid] and “Necesitamos poder hablar” [We need to be able to talk], which addressed HIV infection and sexual abuse. These campaigns generally combined print (e.g. training booklets and brochures) and promotional material (e.g. calendars, caps, billboards, bumper stickers). They often linked with other media products, like the television or radio shows, using characters from the television show, for example, as the “faces” of the campaign and linking the campaign to the storyline. In addition, Puntos worked hand in hand with local organizations to launch the campaign, either by co-developing materials by region within the country or inviting these partners to produce their own complementary materials (Rock & Cañada, 2011; Rodríguez, 2006).

Finally, Puntos has designed and implemented leadership development programs for women and youth leaders like La Universidad de las Mujeres [University of Women] and the annual youth leadership camps, with the aim of strengthening the leadership capacity of marginalized groups, especially young women, gays and lesbians and women from non-mestizo origins. The annual youth leadership camp brings together 150 young leaders to break down prejudices and stereotypes about people who are different from themselves, and to build new alliances. At this camp, young men and women of all backgrounds (urban and rural, poor and not-so-poor, mestizos, indigenous and Afro-
Caribbean, people with different kinds of physical abilities and disabilities, HIV-positive people who are willing to be out, people with different levels of education and sexual identities) live in close quarters for twelve days with people who they might be afraid of or even have disdain for, and they work together on their mutually oppressive and discriminatory behaviors and analyze the implications of these behaviors at the community, organizational and societal level.

Puntos extended its training and networking activities to other Central American countries in 2003. In total, thousands of women and young people have participated in Puntos’ camps, courses and training activities. Hundreds of Central American organizations regularly use Puntos’ educational packs and other methodological materials. Puntos’ communication and education for social change activities have reached more than a million women and young people in Nicaragua, Honduras, Guatemala, El Salvador, Costa Rica, Mexico, and the United States (Puntos de Encuentro, 2008).

Since 2000, Puntos has combined all of the above-mentioned programs under one multi-thematic, multi-level institutional strategy to promote women and youth rights entitled “Somos Diferentes, Somos Iguales” (SDSI) [We are Different, We are Equal]. SDSI was the product of the lessons learned during Puntos’ first ten years of work in the area of Communication for Social Change. During this time, Puntos had little access to experts or best practice literature. While Puntos’ work was influenced indirectly by some scholars (e.g. Paulo Freire, Albert Bandura, Miguel Sabido, Arvind Singhal and Clemencia Rodriguez), evaluations, feedback, reflection and experience have been more influential. SDSI combines popular mass media appeal, continual coverage and
environment-enabling benefits of television and radio shows with support of local media, community mobilization and alliances between more than 200 organizations, training activities, interpersonal reinforcement mechanisms and links with service delivery organizations, in addition to ongoing monitoring and evaluation and dissemination of the results (Bradshaw, Solórzano & Bank, 2006).

Puntos has collaborated with hundreds of Central American organizations that work on a variety of human rights issues. Puntos currently participates in 26 national and regional coordinating bodies and has working relationships with service providers, young communicators and media outlets all over Central America. These collaborations are both political and strategic. They involve the exchange of information and ideas, participation in events and the development of joint initiatives.

Puntos’ work is currently overseen by three executive offices, whose directors collectively guide the institution. The first, “Women in Movements”, implements activities aimed at strengthening the women’s movement; the second, “Enabling Environment in Central America”, is in charge of implementing the communication strategy across the region in alliance with leader organizations, mass media and service providers; and the third, “TV in Movement”, is responsible for producing the TV component of the strategy, and for systematizing and to promoting Puntos’ communication for social change model abroad. While each of these offices has its own strategies and counterparts, the strategies are complementary and their day-to-day work often overlaps. For instance, the content produced for Puntos’ television series is enriched and validated through the research, analysis, experiences, and feedback from each of
Puntos’ teams and the organizations and individuals they work with at the local, national and regional levels. At the same time, these teams create the conditions that allow these partners to contribute to the success of the communication strategy and this mutually supportive relationship reinforces the strategy’s potential and impact (I. Solórzano, personal communication, September 9, 2011).

Similar to many other feminist organizations and scholars (Batliwala & Pittman, 2010; Boserup, 1970; Harding, 1998), Puntos has questioned the lineal, patriarchal and positivistic nature of currently dominant social change theories, methodologies and approaches. Puntos engages internationally with peer organizations and allied grant-makers to seek out alternative theoretical frameworks, methodologies, approaches and experiences that could contribute to a more holistic understanding of social change processes and provide guidelines for a more effective investment in social change. Puntos sees synergies between Complexity Science and Feminist approaches to social change – such as the value of diversity, decentralized control and holistic/system-wide change – and therefore, its staff is very interested in exploring ideas from Complexity Science further in their work and participating in the ongoing dialogue about Complexity Science applied to International Development and Impact Evaluation (A. Criquillion, personal communication, December 10, 2011; I. Solórzano personal communication, July 24, 2011).

In summary, Puntos de Encuentro makes for a solid and interesting illustrative case study for elucidating the application of Complexity Science principles and ideas to the field of communications for social change due to its innovative approaches, its
explicit identification and interest in Complexity Science, and my familiarity with the organization’s work and approach. This study seeks to explore and make these connections more explicit.

The following segment explains my previous relationship with Puntos, how this relationship positions me as both an insider and an outsider and what I think are the advantages and challenges of this role.

**Framing Myself and my Role in this Research**

I have been actively involved in social change initiatives in Nicaragua since I was 14 years old and as such, it is not surprising that I developed a close relationship with Puntos de Encuentro (one of Nicaragua’s most well-known feminist organizations) and its leaders, with whom I also have a personal relationship. I feel comfortable disclosing these relationships because, first, I am not claiming to seek the “absolute truth” about Complexity Science and social change but, instead, I wish to help this organization, and others, think about their work from a different perspective. Second, these relationships enabled the research, as I had already spent many years gaining the trust of the research participants.

My first contact with Puntos was in 1992 when the organization hired me to create and host an innovative talk radio show for young people, later called Sexto Sentido Radio. In 1997, together with Amy Bank (a colleague and a former Executive Director of Puntos), I co-created, and became executive producer and director of the television series Sexto Sentido. During the period I worked for Puntos, I grew with the organization and
took on different roles and positions, and thus had a role in shaping its communication strategy during that time.

I left the organization in 2004 to pursue my Masters and Doctoral degrees in Communication and Development. Since my departure, I have stayed in touch with some of the organization’s directors and from time to time I have served as an external consultant, helping the organization theorize and systematize specific experiences. Much has happened at Puntos since 2004. Its communication strategy has evolved (although it has retained some of its core features), and the organization itself has gone through a series of institutional changes.

Due to the active role I played in the design and implementation of Puntos’ communication strategy in the 1990s and early 2000s, I have an insider’s perspective on the historical evolution of the organization. At the same time, by virtue of the fact that several years have passed since I was last an employee of the organization and that during this time I have not been party to the many changes that have occurred during this period, I am also an outsider.

My personal and professional relationship with Puntos’ directors and staff members has allowed me to create a safe and trusting space to explore and debate complex, and at times even sensitive, issues and to facilitate collective reflections about their theories of change, the organization’s mission and vision, and the challenges related to the implementation and evaluation of their strategies, that otherwise might have been difficult to achieve.
Being an insider also allowed me to identify institutional language and discourses, and, when necessary, to broaden the scope of the discussion and to encourage participants to reflect more deeply on their work, explore new angles and question issues and circumstances normally overlooked.

On the other hand, the theoretical nature of this study (which focuses on Complexity Science principles and ideas rather than on Puntos itself), the distance resulting from a separation of several years from Puntos’ day-to-day operations and the changes in strategies and organizational structure that have occurred during this time provided me with the “up in the balcony” perspective of an outsider.

This combination of roles allowed me to approach this study from aspects of both an emic and an etic perspective. The insider (emic) perspective allows one to identify “the difference which makes a difference” (Bateson, 2000, p. 318), while the outsider (etic) perspective allows one to pinpoint differences not necessarily perceived by insiders and that the outsider believes matter.

My previous knowledge of the organization’s work helped me analyze and interpret the data within the proper context, making for a more plausible interpretive study than would be possible for someone unfamiliar with the context in which the organization operates. Moreover, as a Nicaraguan and native Spanish speaker, I was able to fully engage with the data and observations gained from fieldwork, without the filter of translation, further solidifying data collection, interpretation and synthesis.
Chapter 2: Theoretical Grounding

To ground the analysis of Communication for Social Change from the perspective of Complexity Science and to be able to illustrate the application of key Complexity concepts to Communication for Social Change, this chapter reviews the literature from two fields relevant to this study: (a) Communication for Social Change and (b) Complexity Science.

The first part of this chapter reviews the literature on Communication for Social Change beginning with a brief historical overview of the field and its paradigm shifts, followed by an exploration of some relevant concepts, trends and issues in the Communication for Social Change field.

The second part examines the literature from Complexity Science related to the development and social change fields. As the literature on Complexity Science is vast and multidisciplinary, and not all its concepts and theories necessarily apply to the dynamics of human systems, this part of the chapter focuses on the literature from Complexity Science specific to management and organizational change and as applied to International Aid and international development policy. The section contains a basic description of Complexity Science, with an explanation of the main features of complex systems and some basic principles and concepts governing all complex systems that are relevant to the design of systemic social change interventions.

The chapter concluded by addressing some of the debates and critiques related to the paradigm shifts in Communication for Social Change, the application of Complexity Science concepts to development work and its utility to the social change field, as well as
a review of some initial reflections from Communication for Social Change scholars and practitioners about the potential benefits of a complementary Complexity Science approach.

**Trends and Issues in Communication for Social Change**

**From Modernization to participatory paradigms.** According to Waisbord (2001), Development Communication commonly refers to,

The application of communication strategies and principles in the developing world. It is derived from theories of development and social change that identified the main problems of the post-war world in terms of a lack of development or progress equivalent to Western countries. (p. 1)

Development originally meant the process by which developing societies could become more like Western developed societies as measured in terms of political system, economic growth and educational levels (Inkeles & Smith 1974; Mowlana, 1997). Post-World War II international aid programs aimed to address issues of poverty, illiteracy, poor health and a lack of economic, political and social infrastructures in what was called Third World. Waisbord (2001) argues that “development theories have their roots in mid-century optimism about the prospects that large parts of the post-colonial world could eventually ‘catch-up’ and resemble Western countries” (p. 1).

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1 Although the literature refers primarily to the communication for development or development communication field, over the past few years there has been an increasing focus on redefining it as the communication for social change field. In essence, communication for social change recognizes the role that communication processes play in ongoing and inherent social change processes in societies, as opposed to the role of communication in development agendas often defined by the donor community or by governments.
Communication was seen as an instrument that contributed to Development by providing information.

Because the problem of underdeveloped regions was believed to be an information problem, communication was presented as the instrument that would solve it. Communication basically meant the transmission of information. Exposure to mass media was one of the factors among others (e.g. urbanization, literacy) that could bring about modern attitudes. This knowledge-transfer model defined the field for years to come. [There was] a clear pro-media, pro-innovation, and pro-persuasion focus. The emphasis was put on media-centered persuasion activities that could improve literacy and, in turn, allow populations to break free from traditionalism. (Waisbord, 2001, p. 3)

Included in this Modernization tradition are Diffusion of Innovation theory (Do & Kincaid, 2006; Piotrow, Kincaid, Rimon & Rinehard, 1997; Rogers, 2003; Sood, Menard & Witte, 2004) and social marketing, health promotion and education, and early and traditional Entertainment-Education (E-E) formats. Many of these approaches are premised on the Theory of Social Learning and Cognition (Bandura, 1977, 1986), the Theory of Reasoned Action (Fishbein & Ajzen, 1975, 1981), the Health Belief Model (Janz & Becker, 1984) and the Theory of Planned Behavior (Airhihenbuwa & Obregon, 2000; Ajzen, 1985, 1991; Hale, Householder, & Greene, 2002; Institute of Medicine, 2002; Rimer & Glanz, 1995; Waisbord, 2001). The application of these theories primarily focused on individual behavior as the basis for social change. They do not necessarily take into account the dynamics of the social system as a whole (as greater than the sum of its parts) or the structural, cultural, social, political and economic context that condition individual and collective behavior.

Modernization largely failed to achieve the kind of development promised by its promoters (Amin, 1997; Frank, 1984; Jacobson, 2003; Wallerstein, 1979) and media
systems did not, as expected, engender free speech or representative political participation (Rogers, 1976; Schramm, 1976). In the mid-1970s, proponents of Modernization and Diffusion theories considered it necessary to review some basic premises (Rogers 1976, 2003). In a widely quoted article, “Communication and development: The passing of the dominant paradigm,” Rogers (1976) recognized that early views had individualistic and psychological biases and that it was necessary to take into account the specific sociocultural environment in which “communication” took place. Communication stopped being perceived only as a tool for persuasion and started to be understood as a process by which participants create and share information with one another in order to reach a mutual understanding (Rogers, 1976).

The emergence of Dependency Theory in the 1970s aided the transition from the Modernization paradigm to a more pluralistic one. Originally developed in Latin America and influenced by Marxist and critical theories, the Dependency analysis stated:

The problems of the Third World reflected the general dynamics of capitalist development. Development problems responded to the unequal distribution of resources created by the global expansion of Western capitalism…. Dependency theorists critiqued development programs for failing to address structures of inequality and targeting individuals rather than social factors. (Waisbord, 2001, p. 16)

Dependency theorists argued that underdevelopment was the flip side and the consequence of the development of the Western world. The latter maintained economic and political power, which perpetuated underdevelopment and dependency in the Third World. Therefore, the solution to underdevelopment problems was essentially political, rather than merely informational and thus, Dependency Theory proposed a localized vision of development based on the needs, desires and resources of each country and
community. This approach also implied major changes in media structures, which operated on commercial principles and were dominated by foreign interests. Communication policies needed to promote national and public goals that could put the media in the service of the people rather than act as pipelines for capitalist ideologies (Beltrán, 1976).

The MacBride Commission Report (MacBride, 1980) released by UNESCO, was a historical turning point in communication approaches to fostering social change. It revealed alarming data about the control of information globally and sparked much debate about the influence of rich countries on the hearts and minds of the world’s people (Gumucio-Dagron & Tufte, 2006).

The MacBride Report and, more broadly, UNESCO’s call for a New World Information and Communication Order, functioned as a catalyst for many of the arguments already taking place in developing countries. Beltrán (1976, 1980), among many others, argued that concepts of communication embedded in Modernization theory were foreign to social conditions in the Third World and in Latin America in particular. They were alien and oriented toward dissemination rather than emancipation.

Practitioners also became aware during the 1970s that development and communication initiatives did not necessarily reach women and that the situation of women had in fact worsened over time as they were overlooked by both development policies and communication programs (Boserup, 1970; Melkote & Steeves, 2001; Sen & Grown, 1987). Thus, both communication and gender became important aspects to consider in the course of development.
Participatory theories for communication and development also criticized the Modernization paradigm on the grounds that it promoted a top-down, ethnocentric and paternalistic view of development. These theories also challenged traditional approaches for,

Having been designed and executed in the capital cities by local elites with guidance and direction from foreign specialists. Local people were not involved in preparing and instrumenting development interventions. Interventions basically conceived of local residents as passive receivers of decisions made outside of their communities, and in many cases, instrumented ill-conceived plans to achieve development…. The top-down approach of persuasion models implicitly assumed that the knowledge of governments and agencies was correct, and that indigenous populations either did not know or had incorrect beliefs. (Waisbord, 2001, p. 17)

In other words, while Modernization argued that the problem of underdevelopment was largely due to the lack of information among populations and that the solution lay with the individuals, participatory approaches to Communication for Social Change began advocating the importance of participation and local ownership of social change initiatives to facilitate greater involvement of the whole community in the problem solving process (Melkote, 1991). As Jacobson (2003) explains, development projects in the 1970s were highly influenced by thinkers such as Paulo Freire who aimed to focus development change efforts on self-determination and empowerment and saw communication as an end in itself rather than just a means to encourage the adoption of foreign ideals.

Thus the Participatory paradigm was born, involving the use of communication processes in order to enable people to become critically aware of their situations and options, aiding and empowering them to make informed choices by gaining the knowledge they deem necessary to improve their conditions (Fraser & Restrepo-Estrada,
As Waisbord (2001) points out, “in stressing the relevance of ‘other’ media and forms of communication, participatory theories lifted Development Communication out of the ‘large media’ and ‘stimulus-response’ straitjacket and opened new ways of understanding interventions” (p. 20).

This approach espoused a pluralistic perspective where “multiple local and individual realities are recognized, accepted, enhanced and celebrated” (Chambers, 1997, p. 188). Several authors (Ascroft & Masilela, 1994; Dervin & Huesca, 1994; Díaz-Bordenave, 1976, 1994; Servaes, 1985) argued that the alternative framework also moved away from the idea of prescriptive blueprints for development work and encouraged a localized and context-specific approach, highlighting the importance of grassroots and local dialogue oriented toward self-reliance and emancipation, and the potential of horizontal communication.

Although Communication for Social Change was initially viewed as supporting development initiatives through information delivery, it is now recognized as an integral part of the development process and includes aspects of interaction, organizing, and ultimately individual and collective empowerment. This does not mean that modernization approaches to Communication for Social Change have been completely replaced by Communication for Social Change and participatory strategies, or that one is more valuable than the other. In some cases, a “modernization”, top-down approach may be the most efficient and effective way to achieve the desired change. This is true, for example, during health epidemics. It does mean, however, that there is a continuum of communication approaches that many development initiatives use in their programs, and
moreover, that there is an increasing understanding in the development field of the importance of approaching social change as a complex problem. This has led to participatory, pluralistic approaches being increasingly well received by practitioner organizations and the development community in general.

Today, many effective communication strategies incorporate an integrated approach where information is a part but not the whole (Singhal, Cody et al., 2004), where the socio-political context, economic conditions and the multiple flows of communication within the communication process are taken into account (Wilkins & Mody, 2001) and where communication is seen as a constitutive factor in cultural and social change and not just an addendum. In other words, efforts are made to account for the multiple complexities involved in the process of social change (Melkote & Steeves, 2001). Therefore, Development Communication has been re-conceptualized as a process initiated at the community level and involving those who are most often left out of the development process (e.g. women, lower castes, ethnic minorities, and the poorest of the poor) (Melkote & Steeves, 2001). Social collective action through organizing and communication has become the new focus.

**Communication as organizing for social change.** Since social change does not only occur through change in individual behaviors, some kind of social organizing is required to achieve sustainable transformations. Papa, Singhal and Papa (2006) explained the distinction between “organization” and “organizing”:

An organization is composed of a group of individuals who engage in interdependent cooperative actions. Organizational members take inputs (materials, energy and information) from the environment, process them and return them to the environment as outputs…. However, the term organization is
used in a static fixed sense without taking time into account. Organizing, on the other hand, refers to the process-oriented, time-varying nature of the behaviors of members in an organization. (p. 36-37)

It is not only the difference in impact that a large group of individuals can achieve in comparison to isolated individuals, but also the influence that a diversity of groups can have over the whole system which creates an enabling environment for social change to occur.

Alinsky (1972) saw the world inherently laden with power: “Change comes from power, and power comes from organizing. In order to act, people must get together” (p. 113). Thus, empowerment is usually understood within the context of power, as it refers to the ability to have control over the decisions that affect people’s lives. Empowerment, in this sense, is linked to creating an environment where people who have control over situations that affect their lives are given the opportunity, knowledge, and power to bring about the change that would improve their lives (Melkote & Steeves, 2001).

Scholars such as Papa, Auwal and Singhal (1997), Papa, Singhal, Ghanekar and Papa (2000) and Rogers and Singhal (2003) have conceptualized the process by which individuals become empowered as essentially a communicative and interactional one. Furthermore, Alinsky (1972) stated that communication is the most essential requisite for organizing, arguing that it is the cohesive force that unites people for social change. Along this thinking, Freire (1973) introduced the concept of “conscientization” whereby the poor acquire the knowledge and skills necessary to reflect and take stock of their lives and subsequently take charge of transforming their life circumstances. Conscientization resulted from a communicative process that involved dialogue, critical thinking and
active learning leading to collective action as opposed to the traditional “banking” model where individuals were given or “deposited” information.

Thus, communication strategies are essential to organizing for social change endeavors. Social networking, social movement building, collective actions and public advocacy for social change and policy-making involve some kind of communication strategy either in the form of mass media campaigns or entertainment-education programs and/or in the form of interpersonal communication with groups and organizations with similar interests (Papa et al., 2006). In many successful cases, there is a combination of various approaches.

According to Servaes (1999), participatory communication provides all people, including the marginalized, with access to information and communication systems and an equal opportunity to participate in creating new information and challenging existing, unjust social practices.

The complementarity of community dialogue and collective action in producing social change is known as the integrated model of Communication for Social Change (Figueroa, Kincaid, Rani & Lewis, 2002). This approach suggests that the change process is initiated by a catalyst: “[The] catalyst leads to a dialogue within the community that when effective, leads to collective action and the resolution of a common problem” (p. 6). There can be different kinds of catalysts, including an internal stimulus leading to a revelation of the problem, technological or policy change to overcome a problem, promotion of individual and collective action by mass media, and/or a change agent (i.e. a person or an organization that initiates a dialogue with the community).
While much emphasis has been placed on horizontal dialogue and participatory approaches, it is also important to challenge the false dichotomy of dissemination versus dialogue. Singhal (2005) has argued that this opposing binary is neither useful nor productive and that, for social change to occur, both dissemination and dialogue must dynamically co-exist, and be allowed to shape each other.

Papa et al. (2006) described dissemination as an intentional process of information transmission from a source to one or many individuals. In this sense, dissemination involves telling. The message does not change and there is limited, if any, role for feedback. Mass-media messages are thus mostly about dissemination; however, interpersonal messages also involve dissemination of some kind.

Instead, Papa et al. (2006) conceived of dialogue as involving mutuality and reciprocity in information exchange between two or more individuals. In this sense, dialogue involves not only a channel of information exchange but it is also embodied in the relationship between participants. Dialogue, by nature, is recurring and iterative. Through dialogue, human relationships are co-created, co-regulated and co-modified. In other words, something new is created by the interaction.

Thus, dissemination and dialogue are dialectically intertwined and the tension between them is a vital ingredient in organizing for social change. Mass media is valued because it can provide access to information otherwise not currently available to the system (community or organization), based on which the transformative dialogue can be enriched. This dissemination-dialogue dialectic in a mass-mediated context has been clearly illustrated by Tufte (2005) in what he calls the “third generation” of
Entertainment-Education (E-E) strategies that differ significantly from earlier models of E-E.

Entertainment-Education (E-E) are purposely designed media messages that seek to entertain and educate a public about a specific issue, in order to change attitudes, norms and behaviors (Singhal, Cody et al., 2004). E-E projects have historically been large-scale efforts driven by international development agencies in partnership with national or governmental players, largely because E-E projects are designed to reach mass audiences over an extended time and therefore require a larger investment of resources than most civil society organizations have access to. As large-scale and often top-down donor-driven programs, most E-E interventions are associated with the sphere of non-participatory initiatives. However, new trends in the field of Communication for Social Change have also influenced E-E programs resulting in the slow integration of Freire’s notion of conscientization (Tufte, 2005). This paradigm shift means that E-E projects are slowly moving towards empowerment rather than being limited to marketing specific behavioral changes. The new generation of E-E programs shows a shift from social marketing strategies towards a focus on “problem identification, social critique, and articulation of debate, challenging power relations and advocating social change” (Tufte, 2005, p. 168). Tufte (2005) has argued that Puntos de Encuentro is a clear example of third generation E-E endeavors.

**Complexity Science and Social Change**

This sub-section presents the central tenets of Complexity Science as it relates to social change. It is divided in two segments. The first one provides a brief description of
what Complexity Science is and how it can be a useful reference for understanding and designing social change initiatives. The second segment describes the characteristics of complex adaptive systems and how this paradigm might apply to social change problems.

Complexity Science and its potential to enhance understandings of social phenomena, Development and social change. As explained in the introduction, the Newtonian paradigm encourages social change to be seen as a complicated rather than as a complex problem, and thus provides a false understanding of how social change comes about. It is no wonder then that social change practitioners and scholars have begun to adopt a new approach to social change, based on the premises of Complexity Science.

Complexity Science is not a single theory; instead, it is a combination of various theories and concepts from different disciplines, including mathematics, physics, biology, psychology, anthropology, economics, sociology and management. This implies that few fields of scientific endeavor have not been involved, in one way or another, in building the conceptual tenets of Complexity Science (Ramalingam & Jones, 2008). The reason for this, according to Carson and Flood (1993), is that Complexity theory is not just a multidisciplinary approach, but rather a meta-discipline, meaning that it creates knowledge that can be transferred from situation to situation throughout all branches of science. There are even specialized institutions, such as the Santa Fe Institute in the U.S.A., designed to allow scientists from a range of disciplines to conduct research on the application of Complexity Science to new fields and questions. The Communication for Social Change field is one of the few fields as of yet unexamined by Complexity Science.
Stated succinctly, Complexity Science seeks to understand how complex adaptive systems work, what are the patterns of relationships within them, how they are sustained, how they self-organize and how outcomes emerge. The observations help society answer fundamental questions about living, adaptable, changeable systems (Eoyang, 2007; Papa, Singhal, & Papa, 2006). Complexity Science thus helps society visualize and understand societies and social change in ways that other scientific approaches cannot. As Carol Webb (2006), from KnowledgeBoard, said,

The domain of complexity science provides thought-provoking material that both challenges and complements perspectives of day-to-day work, thinking, and life. Complexity science principles such as self-organization and emergence, for instance, question fundamental issues such as leadership, organizational behavior, and hierarchical structures, while unpredictability, history and time set the scene for debates concerning certainty, strategy, and task management. Principles such as the edge of chaos, diversity, and pattern recognition also provide additional perspectives from which to consider and understand problems, in addition to providing stimulus for creative activities and opportunity recognition. (p. 1)

Contrary to the cause-effect Newtonian paradigm, Complexity Science provides the opportunity to look at problems from multiple perspectives, study the micro and macro issues and understand their interdependence. As Flynn (2004) explained, instead of describing how systems should behave, Complexity Science focuses on the interdependencies and interrelationships among its elements to describe how systems actually behave.

By identifying and understanding the characteristics of complex adaptive systems – including how they work, sustain themselves and change – one can generate insights useful for thinking about complex problems, which can then inform action.
It is important to note that mechanical and non-linear paradigms are not mutually exclusive. It is not a question of either/or. Most of the time, social change endeavors will combine both predictable and structured aspects and complex and surprising aspects of the same problem. Eoyang (1997) has emphasized the importance of developing skills in both paradigms and the ability to behave according to one in some cases and to the other in other cases. “In the same way that you would not use a hammer to tighten a screw, you should not use complex systems techniques and strategies to solve Newtonian problems” (p. 7). In other words, as with all methodologies, it is not about right or wrong, but about using it in the right moment. Thus, these two paradigms are part of a useful toolbox for working on social issues.

In the past few decades, several scholars have explored the application of Complexity Science principles and ideas to the social sciences. Special attention has been paid to how the key Complexity Science ideas and concepts can help researchers and practitioners understand and influence social, economic and political phenomena (Fowler, 2008; Ramalingam & Jones, 2008). The literature on complexity regarding leadership and management, including work focused on improving health care systems (see, for example, Eoyang, 1997, 2001, 2007; Lindberg, Nash & Lindberg, 2008; Mitleton-Kelly, 2003; Senge, 2006; Webb, 2006; Wheatley, 1999, 2005; Zimmerman et al., 2001), is an excellent basis for developing the theoretical foundation for this study. However, organizational change and management theories are not sufficient to explain and guide change at the societal level. Social change interventions face a more complex web of interactions between a more diverse group of agents and factors than traditional
organizations. Also, the boundaries of traditional organizations are clearer than those of communities and societies. Furthermore, organizational/institutional change goals are usually more focused and need less time to be achieved than goals related to changing social practices in the cultural, social, economic, and environmental spheres.

The application of Complexity Science concepts to the field of social change requires further exploration. Until recently, International Development has been dominated by organizations with highly conservative agendas and unreceptive to new approaches (Ramalingam & Jones, 2008), making them highly resistant to ideas related to letting go of control and embracing uncertainty and paradoxes, as suggested by Complexity Science. Indeed, the international development sector is increasingly tightening its funding criteria and prioritizing evidence-based programs and strategies, more rigorous evaluations to measure attributable outcomes as a result of the planned activities in a given timeframe. As Chambers (2008) explained in the foreword for Ramalingam and Jones’ (2008) monograph on Complexity and Aid, a huge amount of development and humanitarian thinking and practice is still guided by notions of predictable, linear causality, which is maintained by mindsets that seek accountability through top-down command and control. In fact, he argued that in recent years there has been a growing emphasis on mechanistic approaches (p. 1), even when the Modernization development paradigm has been shown not to be as effective as was once thought.

Fortunately, some scholars and practitioners in the international development and humanitarian sectors have begun exploring new perspectives. The volume of reflections and studies of Complexity Science as applied to Development has grown, slowly yet
consistently over the past few years. Some of these studies highlight the potential and implications of Complexity Science for understanding and operating the aid system (Chambers, 1997; Fowler, 2008; Jones, 2011a; Meadows, 1999; Ramalingam & Jones, 2008; Rihani, 2002; Stroh, 2009). Others talk in more general terms about approaching “messy” social problems from a Complexity Science perspective (Bar-Yam, 2004a; Kahane, 2004; Westley et al., 2007). Furthermore, various new tools and methods have been inspired and influenced by Complexity Science, including outcome mapping (Earl, Carden & Smutyol, 2001), social network analysis (Davies, 2003), systemic action research (Burns, 2007) and Developmental Evaluation (Patton, 2011).

Fowler (2008), in his thought-provoking article on Complexity Science and Development Aid, summarized some of the benefits of applying Complexity Theory to Development and social change issues. According to Fowler (2008), it is important to move above and beyond current theory and analysis dominated by economists, not by replacing one theory for another, but rather by connecting interdisciplinary knowledge about social change. Fowler (2008) emphasizes that by its very nature, Complexity thinking offers comprehensive insights about Development in a non-moralistic, scientific way. Second, Fowler (2008) suggests that Complexity Theory may allow for more realistic estimations of the probability that the system will respond to processes of change in particular ways, which could solve the credibility problem of exaggerated promises and unfulfilled hopes faced by both aid recipients and politicians. Third, the application of Complexity Science ideas and principles is possible across a range of scales and time lines that would make anticipating the unexpected the norm. Finally, Complexity Theory
offers categories for a more nuanced, in-depth and conceptually connected context analysis.

The current literature on Complexity Theory, when applied to Development and social change, has identified, described and illustrated features of complex systems and their implications for Development and humanitarian action. In broad terms, the authors of these studies argue for a shift in overall thinking that would lead to more tolerance of uncertainty, greater reliance on continuous learning (rather than using fixed planning models) and better connection to wider processes of change. Rihani (2002) stated that an understanding of Complexity should shape the dominant trends in Development over the next decade.

**Complexity Science: Key Concepts and Principles**

**Key concepts.** To understand the nature of Complexity Science, it is important to understand some key terms and ideas.

Complex Adaptive Systems (CAS) are the units of study in Complexity Science. As explained by the Plexus Institute (1998a):

All three terms are each significant in the definition of a [complex adaptive system]: 'Complex' implies diversity - a great number of connections between a wide variety of elements. 'Adaptive' suggests the capacity to alter or change - the ability to learn from experience. A 'system' is a set of connected or interdependent things. (p. 6)

According to Complexity theorists, all complex adaptive systems, including organizations or communities, are governed by a few basic principles and share a number of linked attributes or properties (Bar-Yam, 2004a; Eoyang, 2007; Plexus 1998a, 1998b; Wheatley, 1999). Understanding these principles will provide clues for the design and
implementation of social change interventions that evoke the innate quality of living systems to change and re-create themselves.

For the purpose of this study, I have identified and interpreted five basic characteristics, or principles, from Complexity Science that explain how complex adaptive systems function and change over time and that I feel are relevant for analyzing and applying to Communication for Social Change interventions.

The following explanations are based on generic principles that are common to all complex systems in the natural world. In applying them to complex human systems, I have adapted some of the language to make them more understandable with regards to social systems. This examination is merely a starting point, since as Mitleton-Kelly (2003) has pointed out, social systems need to be studied more rigorously in their own right.

The characteristics described below are not stand-alone concepts, but are interconnected, and the complexity of a system is determined by their interaction. The interconnected nature of these principles allows for multiple interpretations and organization of the concepts. The categorization and description of the principles and concepts provided below responds to my understanding of the literature about how complex adaptive systems work and change. Other authors provide a different set of principles or ways to interpret them, and readers are invited to review the bibliography for different perspectives and approaches.
The characteristics and principles identified for the purposes of this study are:

1. All complex adaptive systems have interconnected and interdependent elements, dimensions and hierarchical levels;
2. System-wide changes emerge from the quality of local interactions, learning and feedback;
3. In complex adaptive systems, order is emergent and self-organizing;
4. At the edge of chaos is where the system is more adaptable and creative;
5. Complex adaptive systems are non-linear, paradoxical, unpredictable and sensitive to initial conditions, time and scale.

All complex adaptive systems have interconnected and interdependent elements, dimensions and hierarchical levels. A complex system is composed of multiple elements and/or processes, which are connected to and interdependent on each other and their environment, and which together make up the whole. Complex systems are also characterized by multiple variables or dimensions, which are also interconnected and interdependent. In addition, complex systems frequently have multiple levels of organization (i.e. macro and sub-systems). The degree of connectivity between these elements, dimensions and levels has a profound influence on how change happens within the broader system.

Elements of a system can be anything from processes to individuals to communities (defined by geographical, cultural or other kinds of boundaries). The dimensions of complex systems include things like the cultural, social, economic, political, technical, religious, or physical characteristics and these influence each other and determine the
contexts in which elements interact. The levels of hierarchy in complex systems are not like hierarchies in organizations, which are linked to authority and status; instead, they are hierarchies of scale, or nested systems (Ramalingam & Jones, 2008). For instance, individuals are part of families, which are part of neighborhoods or villages, which in turn make up larger communities and so on.

Interconnectedness may occur between individual elements of a system, between sub-systems, among systems, between different levels of a system, between systems and environments, between ideas and between intentions and actions (Weick, 1976 as cited in Ramalingam & Jones, 2008). Thus, any initiative, such as one aimed at preventing domestic violence at the household level, will have implications for – and will need to take into account – other higher and lower levels of the same system, for example, social norms related to men’s and women’s roles or the legal system. This interconnectedness leads to interdependence between the elements and the dimensions of a system and gives rise to complex behavior.

This idea of dimensions, nested systems and interconnectedness is increasingly adopted by organizations and agencies working on development issues. This understanding of societies and how they change is similar to the socio-ecological model, which is currently used as a framework by many organizations working in Communication for Social Change and which seeks to explain individual behavior through the lens of the multiple levels of influence from friends and family to community to the larger social and economic context and thus recognizes the interwoven relationship between the individuals and their environment (Shoemaker, 2012).
In Complexity Science, the propagation of influence through a system depends on the degree of connectivity and interdependence of the elements and dimensions within that system and with its environment. Thus, degree of connectivity is an essential element in feedback processes (i.e. the propagation of new information within the system). In human systems, connectivity between individuals or groups is not a constant or uniform relationship, but varies over time, and with the diversity, density, intensity, propensity, proximity and quality of interactions between human agents. Connectivity may also be formal or informal, intended or unintended, and implicit or explicit.

The degree of connectivity and interdependency between elements of a system or between the system and its environment could be high (tightly coupled), in which case changes in one element or system will have a great influence in the others, or low (loosely coupled) in which case the influence is present but not extreme. Frequently, the level of coupling in a system affects the amount of time required to propagate a change from one part of the system to the others. In addition, where there is a high degree of interconnectivity and interdependence, different elements and dimensions at different levels of a system can feed back into each other, constraining, driving and influencing changes at other levels.

Since highly coupled systems are more able to spread information and accelerate change within the systems, the idea of ever-increasing interconnectivity could be tempting for social change practitioners. However, such a high degree of dependence may not always have beneficial effects throughout the system. In tightly coupled systems, relatively trivial changes in one element or dimension can spread rapidly and
unpredictably through the system and have dramatic and unpredictable effects (Mitleton-Kelly, 2003). For instance, attempts by one entity to improve its fitness or position, may result in a worsening condition for others. Here one can think of economic policies aimed at increasing a country’s employment level – for example by encouraging the introduction of Free Trade Zone factories – but that result in exposing women workers to unsafe and unfair labor conditions, or environmental damage. In this sense, an ‘improvement’ at one level or for one entity may impose ‘costs’ on other entities, either within the same system or on other related systems.

On the other hand, in loosely coupled systems elements influence each other over longer timeframes, and in more diffuse and subtle ways (Ramalingam & Jones, 2008). The components of loosely coupled systems may also be better at responding to local changes in the environment, since any change they make at the local level does not require the whole system to respond.

An important implication of this principle is that,

This interconnectedness and interdependence of elements and dimensions of a complex system questions the traditional social and political science approach of identifying cause and effect relationships and generating hypotheses about dependent and independent variables that explain social phenomena. (Ramalingam & Jones, 2008, p. 11)

Thus, in trying to understand a social issue, it is essential to look at the multiple elements, dimensions, and the macro and sub-systems that interact and influence the phenomena, including the role and position that the observer (e.g. academy, aid agency, practitioner organizations, government) has within that system.
Indeed, no matter how narrow or small a social change endeavor is, it will always affect and be affected by other elements of the system, and this is a basic lesson from Complexity Science. The analogy of the Rubik’s Cube presented by Haines, Aller-Stead and McKinlay (2005) is appropriate here.

The Rubik’s Cube (see Figure 1) is a deceptively simple puzzle that offers a nearly perfect illustration of the nature of complex problems.

![Figure 1: The Rubik’s Cube. (Source: http://www.allvoices.com/cartoons/c/92493567-peace-rubiks-cube)](http://www.allvoices.com/cartoons/c/92493567-peace-rubiks-cube)

Most people approach the Rubik’s Cube using analytical thinking: they break down the problem into its parts (real or arbitrary) and address one small problem at a time, hoping that by the end of the last problem, all the solutions will add up and the whole problem will be solved (Haines et al., 2005). However, when addressing complex
issues in the context of complex systems, as it is the case of the Rubik’s Cube, this approach is, at the very least, ineffective if not overall counterproductive.

Mathematicians have calculated that there are nearly forty-three quintillion independent configurations in the cube…. The Rubik’s Cube today comes with instructions that explicitly state that the solution cannot be found by approaching just one color or one side in isolation. It is, in fact, impossible to solve the puzzle entirely by attempting to fix just one problem at a time. (Haines et al., 2005, p. 36)

If the traditional Rubik’s Cube (6x6x6 inches) is a good analogy for understanding the complexity of many social problems faced today, for the Cube to get barely close to represent the complexity of multiple complex issues acted upon daily by multiple complex agents in multiple complex contexts, it would have to be something like the Cube depicted in Figure 2.

Figure 2: Nested cube. (Source: www.smtexas.net)
Haines et al. (2005) continued,

The thinking required to generate reliable solutions to the puzzle of the cube had to transcend analytic, one-piece-at-a-time thinking, explanations and languages…. One twist or even a series of changes intended to solve one aspect of an organization’s problem may give the illusion of a solution – until you look at the rest of the system and realize that the myopic focus on one side has left others to become even more jumbled, as a predictable yet unintended consequence. (p. 37)

The very interconnectedness of a system is intimately related to how it adapts. To be more precise, Ramalingam and Jones (2008) and Mitleton-Kelly (2003) have distinguished between “adaptation” to and “co-evolution” with a changing environment. An emphasis on co-evolution changes the assumptions that underlie much traditional management and thus the perspective in which a strategy is viewed (Mitleton-Kelly, 2003). The notion of co-evolution is thus similar to empowerment, as it suggests that all actions and decisions affect the social system. As Mitleton-Kelly, (2003) stated, “no individual or organization is powerless – as each entity’s actions reverberate through the intricate web of inter-relationships and affects the social ecosystem” (p. 9). But co-evolution also suggests responsibility, as once the system is influenced and affected it will in turn affect the entities (individuals, organizations, and institutions) within it. Mitleton-Kelly (2003) went on to say that “this notion is not the same as proactive or reactive response. It is a subtler ‘sensitivity’ and awareness of both changes in the environment, and the possible consequences of actions” (p. 9). In summary, the concept of co-evolution argues for a deeper understanding of reciprocal change and the way it affects the totality.
System-wide changes emerge from the quality of local interactions, learning and feedback.

**Quality of interactions and relationships.** In the simplest of terms, in complex systems “the whole is greater than the sum of its parts” because the features of a system depend not only on individuals but more importantly on the interactions among them, which produce results that no single individual could achieve on its own.

In complex adaptive systems, the interacting agents are independent and interdependent at the same time. Wheatley (1999) described the world as “one divided not into different groups of objects or subjects but into different groups of connections. What is distinguishable and important is the kind of connections” (p. 73). This means that a system changes in response to changes in the pattern of relationships among its elements.

In other words, the quality of the relationships is more important for the evolution of a system than the quality of its elements (Kimball, 2012; Zimmerman, Lindberg & Plsek, 2001). This phenomenon has been observed among sports teams:

The team with the best individual players can lose to a team of poorer players. The second team cannot rely on one or two stars but instead has to focus on creating outcomes, which are beyond the talents of any one individual. They create outcomes based on the interrelationships between the players. This is not to dismiss individual excellence. It does suggest that individual abilities are not a complete explanation of success or failure. (Plexus Institute, 1998a, p. 7)

Team member familiarity with each other – regardless of whether they like each other or not – and a common goal is sometimes enough, with the right feedback, to change the team strategy. The role of the coach is important; however, it is the team
members’ communication and leadership shifts during strategic moments of the game that make the difference between winning and losing.

Change at the individual level, although necessary, is not enough to instigate social change. The system will change only if the change in the individual affects the way agents relate to each other and this new relationship must alter the patterns of relationship that sustain the system in its current form. In other words, for social change to occur, it needs to occur at different levels of the system. In this manner, the entire system emerges from a dense pattern of interactions that reproduce themselves to create a new order.

Meadows (1992 as cited in Wheatley, 1999) illustrated the idea of quality of interactions: “You think because you understand one you can understand two, because one and one makes two. But you must also understand and” (p. 10, emphasis added).

The sports team mentioned above is a good metaphor. If the team with the best individual players also interacts as a team, they could play a more coordinated game, balance competition with cooperation and make tactical decisions as they go – and trust their team members’ decisions – based on a shared strategy, and most importantly, this would improve the team’s chances of success. By the time they win the game, a new pattern of interactions between the players has been established and the result would make for a changed team, even though the individual players are the same.

In other words, to generate the kind of interactions among system elements that propel the system towards change, three conditions are needed: (a) an enabling environment for the interactions between elements to exists and flourish; (b) ability of elements to identify some kind of ‘attractor’ or common interest that allows them and
motivates them to interact; and (c) the emergence of a new pattern of interaction that alters the status quo and creates a new order.

Again, this is similar to what the socio-ecological model (Shoemaker, 2012) illustrates, although that model suggests that change is needed at all levels of a system and therefore requires complementary actions that focus on different aspects of an issue or levels of the system to create systemic change. In contrast, Complexity Science posits that change in one level can induce or influence change at another level or indeed in the whole system. Indeed, this position is similar to the “tipping point” analysis put forth by Malcolm Gladwell (2002) in his book of the same name.

The fact that, in complex adaptive systems, the quality of the relationships is more important for the evolution of a system than the quality of its elements, does not mean that individual or group leaderships are irrelevant. It is usually the individual elements of a system (either people or groups) that create the right conditions for information sharing and learning.

Thus, while system change is an emergent and self-organizing process (this characteristic will be discussed more below), leaders within the system can facilitate or hinder the process based on their own understanding of the systems rules and principles and their own level of adaptability and leadership in complex realms.

Ramalingam and Jones (2008) have argued that leaders of self-organized adaptive systems (in contrast with the traditional model of a leadership) should have the ability to (a) disrupt existing patterns, (b) encourage novelty and (c) use ‘sensemaking’ to interpret and reframe emergent events in ways that provide coherence and shared understanding.
Social change agents’ leadership skills need to be strengthened to facilitate multi-scale, multi-dimensional and multi-systems change simultaneously.

**The importance of information flow, feedback and on-going learning.**

Information flows across boundaries in complex systems. This information is the basis of the interaction between elements in a system.

Networks are what allow information flow and feedback – or the conveyance of information about the outcome of a process or activity back to its source – to spread through systems and beyond system boundaries. In this sense, Ramalingam and Jones (2008) have explained that feedback can be either amplifying or positive, meaning that a change leads to reinforcing pressures, which leads to escalating change in the system, or damping or negative, meaning that change triggers forces that counteract the initial change and return the system to the starting position, thereby tending to decrease system deviation.

Different people receive different types and/or different amounts of feedback depending on the connections and their position in their social network. The speed with which information spreads across a whole system depends on how many networks the informed individuals belong to and how tight or loose these networks are.

Think of the example of a nasty virus spread by air. Patient X does not have to personally know everybody to rapidly infect a huge amount of people. It suffices for this patient to interact with a fair amount of diverse people, who are in turn part of diverse networks themselves, for the virus to spread rapidly. If on the contrary, this person only interacts with her family and none of the members of her family leaves the house for a
month, then the virus will die within that house. If, instead, patient X goes to a movie
theatre and sneezes, the chances that strangers around her get infected are high. If patient
X goes to a big party and interacts with all her friends, meets new ones and double-dips
the fruit punch, the chances of all partygoers getting infected are even higher. A similar
phenomenon occurs with the spread of a rumor. The closer or tighter a network, the faster
the rumor will spread within the system and beyond the system’s boundaries to other
systems (Johnson, 2009).

Thus, not only are networks essential for providing the elements of a system with
the feedback they need to inform their actions, but more importantly, closer networks
(more closely coupled systems) mean faster transmission of feedback (Rand, Arbersman,
& Christakis, 2011). Moreover, the strength of the feedback is determined by the degree
of connectivity, once again demonstrating that the quality of the interaction of the agents
is more important to the evolution of the system than the quality of the agents themselves
or the quality of the information they share.

Feedback, when applied to human interactions, includes influence that changes
potential action and behavior. As Mitleton-Kelly (2003) has clarified, in human
interactions, “feedback is rarely a straightforward input–process–output procedure with
perfectly predictable and determined outputs. Actions and behaviours may vary
according to the degree of connectivity between different individuals, as well as with
time and context” (p. 16).

Furthermore, because complex feedback processes have both positive and
negative effects, different people will look at the same situation and evaluate it differently
(Ramalingam and Jones, 2008). Thus, where one sees the excitement of economic activity, another sees deforestation; where one sees more jobs, another sees more exploitation of human rights especially for women; or where one sees advancement on women’s sexual and reproductive rights, another sees decline of family and moral values, and so on. Each force will fight to foster or hinder the emerging change according to their perspectives and interests. While some sectors will see the change as an opportunity for the system to improve and evolve, and will provide positive feedback to fuel the trend, others will do their best, by providing negative feedback, to keep (or even reinforce) the status quo.

The process of learning within a system starts with the production and free flow of new-to-the-system information. Complexity Science suggests that the relationship the system has with information, particularly to new and “disturbing” information, is essential for its evolution. According to Wheatley (1999),

> Information must actively be sought from everywhere, from places and sources people never thought to look [or hear] before. And then it must circulate freely so that many people can interpret it. The intent of this new information is to keep the system off-balance, alert to how it might need to change. (p. 83)

Information that disturbs may be perceived as a threat to the stability of people’s beliefs, but this disequilibrium forces them to analyze their values and beliefs and make choices, most likely new ones (this idea will be explored further later in this chapter). In this sense, Complexity Science advocates participation as being important for the information to freely flow in the system so it can evolve. It is not just about what information is being shared, but who is sharing it. Wheatley (1999) has argued that the
greater the variety of people who share ideas, the greater the opportunity for new associations to form and for new patterns of meanings to propagate.

However, as noted earlier with regards to Diffusion theory (Rogers, 1976, 2003), providing information alone is far from being enough to achieve social change. Complexity theorists believe that the system changes when it chooses to be disturbed by the information it receives and the system will only choose to be disturbed when the information provides a new meaning to the system. Thus, what gets a system’s attention is not the intensity or frequency of the message but rather how meaningful the message is to the system (Wheatley, 2005).

It is, however, difficult to know what information is meaningful to a system at any given moment. A range of information coming from diverse sources has better chances of getting a system’s attention. Social agents then have to pay close attention to the system’s reaction to the information provided and increase the level of reinforcing feedback where appropriate in order to propel the system toward a paradigm shift.

Research here is crucial. There is still a lot to learn about complex adaptive systems, the principles that rule their behavior and their application to human systems. More case studies that apply these principles in the context of development programs, and assess their effects, implications and effectiveness are required.

But equally important is the need to make appropriate monitoring and evaluation an essential component of every social change initiative. Social change initiatives require well thought out monitoring and evaluation systems and other feedback mechanisms that are flexible enough to inform the actions of practitioners, donors and policy makers in a
timely matter, that takes into account the complexities of social change and that evolves with the program and the context in which this program is being implemented. That is the essence of 'developmental' approach to monitoring and evaluation advocated by Patton (2011).

Thus, system learning is an emergent property. It is not just reification – i.e. giving objective existence to a concept – but a process based on the interaction of individuals creating new patterns of thought at the macro- or organizational level. A change-causing exchange like this is called a transforming feedback loop. According to Eoyang (2007), “transforming feedback is the only control mechanism available in a complex system, so a manager must learn to use feedback effectively” (p. 9). Mitleton-Kelly (2003) explained that when learning leads to new behaviors, the system could be said to have adapted and evolved.

In that sense, learning is a prerequisite for system’s evolution. If that is the case, then social change agents need to facilitate learning and the generation of new knowledge. This new knowledge, in turn, needs to be shared, to generate further new learning and knowledge. It is important to note that learning here does not mean just training or the acquisition of new skills, but the gaining of insight and understanding which leads to new knowledge. In other words, “the system becomes different because it understands the world differently” (Wheatley, 2005, p. 86).

**In complex adaptive systems, order is emergent and self-organizing.** In complex adaptive systems, order is emergent and self-organizing. This means that control is decentralized and outcomes emerge from a process of self-organization rather than
being assigned and controlled externally by a centralized body. Self-organization is the collective response of a crowd of agents to information, feedback and context. Indeed, large-scale self-organized phenomena cannot be directed and controlled by an external source since the level of complexity, amount and pace of the interactions between the agents exceed the capacity of any individual to follow, understand and react in a timely matter.

Furthermore, Complexity Science explains the emergence of self-organizing phenomena are unique to complex adaptive systems, with the following characteristics: existence of a crowd of independent agents, making individual decisions based on the information they have (either from past experiences or as feedback of current behavior) and interacting with each other, interdependently adapting their behavior to the reactions or feedback received by others and their environment and competing for scarce resources (e.g. time, money, material resources or space as occurs in traffic jams or the stock market) and cooperating with each other as an intuitively effective approach to meeting shared goals or purpose. All this happens without a central controller as if guided by an “invisible hand” (Johnson, 2009).

As mentioned above, new information introduced into a complex system may disturb the system, or in other words, cause it to get more and more disorganized (i.e. it moves away from equilibrium), eventually reaching a point where the way the elements of the system and the whole system itself behave no longer works and the system is forced to reorganize itself into some new structure, or ‘self-organize’ in a new way.
The new structure that emerges from self-organization occurs spontaneously from the emergent behavior of the whole system as a result of its needs for adaptation and evolution. In order to maximize systems adaptability, there must be room for innovation and novelty. Over-controlling approaches will not work well within complex systems.

Thus, in complex systems, “the more freedom in self-organization, the more order” (Wheatley, 1999, p. 87) emerges in the system. It is important to note, however, that this concept does not mean that chaos is perfection; boundaries are very important in creating order and all complex adaptive systems operate within boundaries.

This emergent phenomenon means that, in complex systems, the future cannot be fully predicted and change cannot be directed. As stated by Kimball, Weinstein and Silber (2004), “Emergence results as a function of the patterns of interrelationships between the agents, and is characterized by unpredictability, the inability to state precisely how the interrelationships between the parts will evolve” (p. 1).

As stated earlier, whole system behavior is not just the sum of the behavior of the parts. Instead, systemic behavior emerges from the interdependent activities of the individual elements that act according to their own goals and aims and based on their limited information and perspective on the situation. In social systems, this behavior can be used to explain how and why the behavior of a whole group may have coherence even though the behavior of individuals may appear to be random. Plexus Institute (1998a) provides an example of this self-organizing process:

We have all experienced situations in which the whole is not the sum of the parts – where we cannot explain the outcomes of a situation by studying the individual elements. For example, when a natural disaster strikes a community, we have seen spontaneous organization where there is no obvious leader, controller or designer.
In these contexts, we find groups of people create outcomes and have impacts that are far greater than would have been predicted by summing up the resources and skills available within the group. In these cases, there is self-organization in which the outcomes that emerge are highly dependent on the relationships and context rather than merely the parts. (p. 3)

In the case of human systems, it is noteworthy that while the behavior of individual elements may seem random at first sight, certain ‘basic rules’ guide interactions between people and between the organizations and institutions they create. Fowler (2008) explained that because these rules – be they formal laws or simply conventions people follow – emerge from context-specific social processes, they contain implicit information about standards and norms that are used or avoided by groups in society. Understanding what rules work for whom in practice – as opposed to on paper – can reveal the de facto rules that guide people’s behavior So, as Eoyang (1997) has stated, in order to understand and describe a system’s behavior, “you must observe the behaviour of both the individual and the patterned whole” (p. 50).

In human systems, emergence tends to create irreversible structures or ideas, relationships and organizational forms, which become part of the history of individuals and institutions and in turn affect the evolution of those entities. For example, the generation of knowledge and of innovative ideas when a team is working together could be described as an emergent property in the sense that it arises from the interaction of individuals and is not just the sum of existing ideas, but could well be something quite new and possibly unexpected. Once the ideas are articulated they form part of the history of each individual and part of the shared history of the team – the process is not
reversible – and these new ideas and new knowledge can be built upon to generate subsequent new ideas and knowledge.

**At the edge of chaos is where the system is more adaptable and creative.** All systems – including human systems – tend to gravitate toward stability, and the system as a whole creates mechanisms intended to maintain the status quo. Information (supplied in the form of feedback, context changes and new data) can disrupt the status quo and bring the system to the edge of chaos, or crisis. The system’s natural survival reaction is to adapt to regain stability.

There is, however, a fundamental difference between natural and social human systems: the latter can deliberately create constraints and perturbations that consciously push a human institution far from equilibrium (Mitleton-Kelly, 2003).

It follows then that complex adaptive systems (including people and groups) increase their capacity to be creative and change when they are at the edge of order (status quo) and chaos (newness) (Plexus Institute, 1998b). Proximity to an “edge” forces the system to experiment and explore their “space of possibilities”, an effort that leads to the discovery and creation of new patterns of relationships and different structures (Mitleton-Kelly, 2003).

Edges, also called boundaries, include the areas that separate similarity and difference in a system. Examples of boundaries in social systems include distinctions based on cultural backgrounds or gender, geography, economic differences, ideology or areas of expertise. The boundary is not imposed from outside the system; rather it
emerges because of differences within the system itself. Again, the boundary is the focal point for change and adaptation of the system (Eoyang, 1997).

In other words, identifying and challenging edges or boundaries are means of enhancing the possibility of change within a system. According to Kimball et al. (2004),

To create an edge, we need to find ways to engage people in and around [their] boundaries [e.g. stereotypes, gender roles, prejudices or sexual identities]. We want to put [the system’s elements] in the zone where they grapple with the differences among or transitions between their familiar patterns. (p. 5)

That is, by challenging peoples’ mental models, pitching “old” ideas against “new” ideas, new ways of thinking and different lifestyles, unexpected attitudes and behaviors can emerge and flourish.

However, bringing the system to the edge implies an emphasis on the need to make continuous learning a central part of an organization’s policy, particularly as contexts are always changing and it is not possible to plan for all eventualities. In this regard, Chapman (2004, as cited in Ramalingam and Jones, 2008) argued that a mindset of enquiry and not certitude is required to “shift focus from specifying targets to be met towards ongoing work based on learning what works, and towards improving overall system performance, as judged by the end-users of the system” (p. 43). The approach to learning and decision-making should also be tailored to the specific situation, particularly as no single tool should be expected to provide all possible guidance.

**Complex adaptive systems are non-linear, paradoxical, unpredictable and sensitive to initial conditions, time and scale.** Most traditional scientific approaches are based on the idea of linear relationships where linear problems can be broken down into pieces and each piece can be analyzed separately and where all the separate answers can
be recombined to provide the answer to the original problem. In a linear system, the whole is exactly equivalent to the sum of the parts. Complex systems, however, are non-linear by nature.

Non-linearity results from the mutual interdependence between dimensions and elements. Clear causal relations cannot be traced because of the multiple influences involved. Non-linearity poses challenges because relationships have to be examined simultaneously and as a whole.

A basic characteristic of complex adaptive systems is that they are full of paradoxes. “As you study the world through a complexity lens you will be continually confronted with 'both-and' rather than 'either-or' thinking. The paradoxes of complexity are that both sides of many apparent contradictions are true” (Plexus Institute, 1998b, p.14).

However, rather than hindrances, these paradoxes are seen, in Complexity Science, as generative aspects of a system.

In complex adaptive systems creativity and innovation have the best chance to emerge precisely at the point of greatest tension and apparent irreconcilable differences. Rather than smoothing over these differences we should focus on them and seek a new way forward. (Plexus Institute, 1998b, p. 7)

In a complex system, a very small cause may have a tremendous effect and thus, a small difference in the initial state of a system may change the system outcome tremendously. As Ramalingam and Jones (2008) have explained,

Two complex systems that are initially very close together in terms of their various elements and dimensions can end up in distinctly different places. Interactions taking place at any moment in time have evolved from a previous moment in time. (p. 28)
This extreme sensitivity to initial conditions is sometimes called the “butterfly effect”, a term coined by Edward Lorenz, a meteorologist, as metaphor to explain how a minute difference in the initial condition of a weather system leads to a chain of events producing large-scale differences in weather patterns.

Sensitivity to initial conditions means that “the generalisation of good practice [to be applied in different contexts] begins to look fragile” (Haynes, 2003 as cited in Ramalingam and Jones, 2008, p. 28). This is because initial conditions are never exactly the same and because complexity and non-linearity make it extremely difficult to separate the contributions of individual factors to overall behavior. This concept highlights the importance of understanding what can be forecast as well as what is comparable: both are necessarily restricted by the perspective of the observer who always has only a partial view of the whole.

An observer cannot predict which state will emerge. As Mitleton-Kelly (2003) has argued,

Only chance will decide, through the dynamics of fluctuations. The system will scan the territory and will make a few attempts, perhaps unsuccessful at first, to stabilize. Then a particular fluctuation will take over. By stabilizing it the system becomes a historical object in the sense that its subsequent evolution depends on this critical choice. (p. 13)

In some systems, future events can be foreseen in a helpful manner, but certain levels of uncertainty are unavoidable. Complexity Science suggests that it is important to identify and analyze the level of unpredictability of any particular system and that it is necessary to incorporate an acceptance of the inherent levels of uncertainty into planning
and build a level of flexibility and adaptability into projects, in order to allow for greater resilience.

Another facet of complex systems is that time frames matter. The longer something takes, the less predictable the outcome becomes. Longer time frames – such as those involved in shifts in social institutions, changes in cultural and gender norms and intergenerational changes – require a move from relying on certainties regarding desired change to estimating probabilities.

In addition, there is the importance of scale. Not only is everything interconnected, where what happens at the local level affects the global and vice versa, but furthermore, scale and complexity have a trade-off relationship where the more complex the interactions are at the lower/local scale, the less complex they can be at higher/global scales and vice versa (Fowler, 2008).

According to Fowler (2008), scale and time combine to make complex systems sensitive to the “speed of change”, which may or may not have significant and surprising effects. Depending on the scale of the change and the level of the target system, the level of complexity of the change, the initial conditions in the system, the level of interconnectivity within the system and between the system and its environment and the time required to make that change happen, the emergent order can be a result of disproportionate effect of a small disruptions or a series of progressing “tipping points”.

Complex systems are not easy to build in detail from the ground up, especially when addressing whole-system changes, so taking into account issues of scale and time
implies trying multiple approaches, observing what works best and building from that. In this sense, Complexity Science advocates that complex systems grow by chunking.

Chunking means that a good approach to building complex systems is start small. Experiment to get pieces that work, and then link the pieces together … and when you make the links, be aware that new interconnections may bring about unpredicted, emerging behaviors. (Plexus Institute, 1998b, p. 11)

Critics point out that Complexity models thus seem futile, as one must act to discover the outcome, but ever evolving systems mean that the exact same thing will never happen again. So why even bother figuring out what just happened?

The contrasting argument is that Complexity approaches make it possible to understand how complex adaptive systems work and the principles that make these systems change. A deeper, more complete understanding of the system allows social change advocates to hone efforts so as to increase the chances for the system to change in a preferred direction.

Even if a complex system cannot be controlled by a centralized force, humans, as a collective group have the agency that can be used to influence the system in a certain direction (Westley et al., 2007). Under Complexity Theory one cannot assume that what is planned will necessarily occur, but one can recognize the rules that help maintain the status quo. Changing these rules will change the patterns of interactions among the agents, thereby propelling the system to change.

Debates, Critiques and Moving Towards Complementary Approaches

This section addresses some of the debates and critiques related to the paradigm shifts in Communication for Social Change, the application of Complexity Science concepts to development work and its utility to the social change field, and a review of
some initial reflections from Communication for Social Change scholars and practitioners about the potential benefits of a complementary Complexity Science approach.

**Critiques to the Participatory paradigm.** As explained in the first section of this chapter, the Communication for Social Change and development fields have been gone through major transformations from the Modernization paradigm to a more horizontal, participatory, democratic and inclusive understandings. Part of this shift is due to a better understanding in the development field of how societies work and change. The field is slowly but surely moving away from a mechanistic approach to society and social change and toward a more organic one.

However, critiques of this new paradigm exist. First, some scholars and policy makers have criticized the Participatory paradigm for its lack of academic rigor and specific guidelines for strategies (Gumucio-Dragon, 2001). This is especially relevant for issues of measurement since its findings cannot be generalized and therefore are less useful for policy makers. Second, the notion of participation ‘for the sake of it’ has been criticized, especially in specific circumstances, such as in epidemics and emergency situations, where there is no time to solicit opinions and achieve consensus on required actions (Cooke & Kothari, 2001). Third, other critics have stated that participatory approaches underplay the potential of the mass media in promoting development (Jacobson, 2003; Servaes, 1999). Finally, critics have argued that participatory approaches, by their very nature, are too localized, focusing on manageable groups and communities, and are therefore not suitable for engendering large-scale change (Servaes, 1999).
Perhaps a better approach to social change lies somewhere in the middle. On the one hand, it is too early to judge the potential of the participatory approach that, by its very nature, requires a significant period of time to demonstrate effectiveness. On the other hand, the Participatory paradigm does not – despite a discourse that uses words like “whole”, relationships, interceptions and system – view social change as a natural response of the system as a complex whole, because participatory methods and approaches focus on specific “localized” groups that can be preserved in one place as participation requires the identification of specific people in an specific place to be facilitated.

While participatory communication theorists and practitioners continue to enrich their understanding of how social systems function and change, their methods still emphasize consciousness-raising among specific individuals. Clearly, this approach is useful and it can even lead to sustainable change if it happens at a macro level (i.e. involves society as a whole).

However, because it is almost impossible to involve each and every agent in the system in a highly participatory and democratic process and because change – that is, sustained change that affects the entire system – does not happen in isolation – because one cannot really isolate a group or community from the larger context – traditional participatory approaches are generally unable to achieve social change at the macro level. This has led to a loss of legitimacy of the participatory approach among some practitioners.
Complex systems theories can enrich this approach. Complexity Science posits that change can be stimulated by external factors, but it undoubtedly requires the engagement of the majority of the system’s members in order for change to occur. This means that while most changes are initiated by a small number of agents, in order for that change to become a system-wide and sustainable transformation, the process of change has to reach the majority of the agents within the system. Paradoxically, in many cases, the agents at the individual level are neither conscious of the need to change nor of the kind of changes developing in the system.

The debate about the application of Complexity Science concepts to development work. Every significant effort to change the status quo will face resistance. Thus, it is not surprising that consideration of Complexity Theory as a potential lens for understanding and informing processes of social change also has its champions, pragmatics and critics.

Some skeptics argue that evidence on the effectiveness of Complexity Science principles in the social sciences are just a coincidence, and dismiss the relevance of Complexity Science beyond the natural sciences (Ramalingam & Jones, 2008). Other critics disapprove of the fact that Complexity Science has become a favorite of management consultants, using ‘well defined technical terms’ as ‘window dressing’ to add an air of scientific authority to their own agendas (Verkoren, 2008). Key Complexity concepts often seem poorly understood, which curbs interpretive efforts and limits applicability (Ramalingam & Jones, 2008). Critics have also argued that Complexity Science demonstrates nothing new and only offers propositions already put forward by
other thinkers. Finally, a common misconception about Complexity Science is that it replaces prediction and planning with reliance on individual’s random initiatives directed at improving their own wellbeing (Fowler, 2008).

In response to these critiques, Complexity thinkers argue that, while many of the concepts from Complexity Science are not entirely new, its novelty lies in the combination and innovative application of these concepts in different realms, which contributes to the understanding of seemingly intractable and longstanding social phenomena. They agree that not all aspects of Complexity Science theories and principles may be directly applicable to International Development, but stress that these ideas seem to address much of the critique of current practices (Verkoren, 2008).

While most Complexity Science concepts are not entirely new, Fowler (2008) argues that its value lies in combining existing ideas and practices and in drawing renewed attention to them. Many scholars have stated that concepts such as non-linearity, co-evolution and unpredictability resonate with their own ideas and that they are insufficiently recognized and applied (Fowler, 2008). Fowler (2008) further stated that the increasing number of studies of social phenomena from a Complexity Science perspective reinforces the legitimacy of this science beyond applications in the natural world.

Finally, as Ramalingam and Jones (2008) explained, Complexity Science is not about “bulldozing” all previous theories and methods, but about rethinking the way they are used. For instance, Complexity Theory recognizes that planning can work to some degree, but it cautions against the belief (among other things) that planned, incremental
efforts will add up to social change at larger scales (because the intervention itself alters the initiating conditions) and warns that intended outcomes cannot be guaranteed. In a complex worldview, contingency and indeterminism really matter, but they do not necessarily preclude dedicated efforts for change that are sustained through time.

Interestingly enough, most of these critics also agree that “current thinking on development is limited, if not just plain wrong” (Verkoren, 2008, p. 2). They concur that planning models that assume linear cause-and-effect relationships and predictable outcomes, such as the logical framework, are ineffective when applied to a reality that is messy, unpredictable and impacted by multiple agencies and processes beyond the development intervention that is being carried out. Verkoren (2008) continued,

Not only are current approaches to aid considered rigid and overly linear, but they tend to shy away from conflict and politics. Complexity, by contrast, draws attention to ‘messiness’, unpredictability and power relations. (p. 2)

Therefore, even if there is not yet a consensus on a paradigm shift in the fields of International Development and social change, there is a growing interest in exploring the potential of Complexity Science to generate insights that improve development and social change initiatives.

While I believe in the potential of Complexity Science to shed light onto understandings of social change, I also agree that Complexity thinkers still face the challenge of making Complexity-based ideas clear and compelling for development and social change practitioners. Approaches, strategies and methods must prove their efficacy so they become attractive to development policy makers and practitioners and more and better illustrations of Complexity Science concepts applied to social change efforts are
needed in order to make their interpretation less arbitrary. In addition, further clarification on the limitations of Complexity Theory applied to social issues is required. Thus, further studies are essential to the development of a rich literature that can clarify these questions. This dissertation is part of that literature.

**Toward a more systemic approach to social change: Potential benefits of applying Complexity Science to Communication for Social Change.** Despite an increasing interest in Complexity Science as applied to International Development and Development policy and a growing body of literature on the usefulness of a more systemic approach to social change, little has been written on the application of Complexity Science principles and ideas to Communication for Social Change.

At best, this gap has been gradually addressed by Communication for Social Change scholars such as Massoni (2004) and Papa et al. (2006), and social change practitioners such as Byrne (2009), Chambers (2008), Grey-Felder (2008, 2009) and Lacayo (2006, 2012), who implicitly or explicitly have argued for more Complexity-based approaches to communication efforts to bring about whole-system changes.

Massoni (2004), for instance, has offered a cross-disciplinary approach to communication, arguing for a strategic and action-driven research agenda that takes into account all levels and elements of the overarching system and the interactions that form the patterns or relationships that sustain the system and that seeks out those interactions that force the system to change. Massoni (2004) stated that while dominant research approaches in Communication for Social Change aim to answer questions of “what” and “why”, the focus should be, instead, on answering questions of “how” social change
happens. Massoni’s (2004) model is based on an epistemology of Complexity, derived from Edgar Morin, a pioneer in the field of Systems Thinking and Complexity Science. Other system-thinking scholars have developed Complexity-based research and evaluation methods such as Systemic Action Research (Burns, 2007) and Developmental Evaluation (Patton, 2011). These scholars have argued that research should inform action that would change the context, which would then propel the system to change and that this process should become a symbiotic relationship (Burns 2007; Patton, 2011).

Likewise, Chambers (2008), Grey-Felder (2008, 2009) and Papa et al. (2006) have agreed on the need for a willingness to revisit notions of Development and social change. Organizing for social change is a complex undertaking. Social change,

Is seldom a neat and tidy process that flows linearly or can be predicted. It rarely flows directly and immediately from participation in organizational activities that involve a specific group of people. Rather, social change emerges in a non-linear, circuitous, and dialectical struggle between competing poles of communicative action. (Papa et al., 2006, p. 49)

Byrne (2009) and Lacayo (2006, 2012) have explored the application of Complexity principles and ideas in Communication for Social Change strategies and impact evaluation approaches and both advocate for a paradigm shift in the social change field. In essence, they have argued that the benefits of Complexity approaches to social change need to be explored, including how the concepts of emergence from minimum rules and self-organization link with ideas of empowering communities and encouraging diversity and ownership.

Thus, this study aims to contribute to the literature on Communication for Social Change from a Complexity Science perspective by illustrating how Complexity Science
principles and ideas can be applied to social change initiatives, and by developing a set of
guidelines for designing more systemic Communication for Social Change strategies.
Chapter 3: Research Design

This study aims to contribute to the effective practice of Communication for Social Change by exploring the application of the principles and ideas of Complexity Science to Communication for Social Change endeavors. It reviews the literature on Complexity Science and illustrates possible interpretations and applications of Complexity Science principles and ideas to the Communication for Social Change field through the work of Puntos de Encuentro, a Nicaraguan, feminist, non-profit organization working in Central America.

The study seeks to help organizations design their social change interventions in a more systemic way. Thus, its purpose is to provide a theoretical framework for the analysis of Communication for Social Change initiatives and to provide guidelines for organizations (including both practitioner organizations and donor agencies) interested in using Complexity Science principles and ideas to inform their Communication for Social Change strategies.

This chapter opens by introducing the research question and the general approach to this research project. Then, there is a concise presentation of both scope and research ethics. The subsequent sections deal with research methods, including the use of a case study method, the criteria used to select research participants and documental sources, the data collection tools used during field research and the procedures used to code and analyze data. This discussion clearly describes how these procedures fit into the interpretative approach that oriented this research project.
Research Questions and Overall Approach

Two questions were used to structure this research project.

1. Which principles and ideas from Complexity Science could inform Communication for Social Change models and strategies and how?

2. What are the implications, for organizations engaged in Communication for Social Change, of applying Complexity Science principles and ideas to their work?

The objective of the first research question was to illustrate some of the Complexity Science principles and ideas that are applicable to Communication for Social Change and how they could aid practitioner organizations in improving their ability to innovate and effectively promote systemic changes in society.

In my experience working with social change organizations, the issue of the benefits, costs and challenges posed by any new approach are fundamental in determining the capacity and willingness of a practitioner organization to adopt the proposed innovation. It is not surprising that when introduced to Complexity Science-based approaches to social change and project evaluation organizations often ask how they might apply these ideas and what the approach implies in terms of benefits, costs and challenges. This underlines the relevance of the two research questions in relation to both the research project and a practitioner public. While the first research question aimed to answer the first concern expressed by practitioner organizations, the second research question examined the potential challenges of developing Communication for Social Change strategies based on Complexity Science.
Both questions were explored through the lens of the illustrative case study. As stated in Chapter 1, while Puntos de Encuentro did not design its social change strategy based on Complexity Science theories, its approach to Communication for Social Change implicitly relates to and reflects a Complexity Science view of social change. A previous study of Puntos suggested a connection between Puntos’ approach to social change and principles and ideas from Complexity Science (Lacayo, 2006).

However, since each case is context dependent, it would be unwise to generalize Puntos’ approach to other organizations applying the same principles. Nonetheless, the lessons and recommendations contained in this study serve as a reference point for other organizations, grant-makers, consultants and evaluators interested in exploring Complexity Science theory in the design of Communication for Social Change strategies and other development interventions.

The two research questions posed above lend themselves to an interpretive approach and a case study method of inquiry. The hermeneutic or interpretative paradigm acknowledges that meaning and knowledge are social and cultural constructions. According to Ajjawi and Higgs (2007), “meanings are constructed by human beings in unique ways, depending on their context and personal frames of reference as they engage with the world they are interpreting. This is the notion of multiple constructed realities” (p. 614). According to Firestone (1987), quantitative and qualitative research paradigms each employ different “rhetoric” to convince readers of their trustworthiness. “The quantitative study must convince the reader that procedures have been followed faithfully because very little concrete description of what anyone does is provided. The qualitative
study provides the reader with a depiction in enough detail to show that the authors’ conclusion ‘makes sense’” (as cited in Merriam, 2002, p. 22).

The literature contains several examples of Complexity-based studies of organizations and social phenomena using an interpretative approach (see, for example, Allen, 2003; Bar-Yam, 2004a; Boulton, 2010; Eoyang, 2001; Flynn, 2004; Fotopoulos, 2000). Furthermore, Fowler (2008) and Ramalingam and Jones (2008) have argued that Complexity Science serves as an interpretative framework from which different kinds of complex phenomena can (and should) be analyzed. Also, in their article about case study methods, Anderson, Crabtree, Steele and McDaniel (2005) suggested that Complexity Theory, partnered with the case study method, is an appropriate place to begin the study of a system as an integrated whole and indicated that the key to understanding the system are contained in the patterns of relationships and interactions among the system’s agents.

Therefore, a flexible and reiterative interpretation process of those constantly emerging or changing patterns is needed in order to understand how the system – that is, the organization or social phenomenon – functions and evolves.

I purposely tapped into my previous knowledge about Complexity Science and what I know and have learned about Puntos and put them together in dialogue or, what Cohen, Kahn and Richard (2000) called a “hermeneutic circle” to create new meanings. The hermeneutic circle is a metaphor for understanding and interpretation, which is viewed as “a movement between parts [data] and whole [evolving understanding of the phenomenon], each giving meaning to the other such that understanding is circular and iterative” (p. 622-623). Moreover, as Puntos did not purposely design its communication
strategy based on a Complexity Science paradigm and from the literature it appears that this is the first study of Communication for Social Change strategies from the perspective of Complexity Science, an hermeneutic, interpretative effort is all the more necessary.

I employed a similar approach in a previous analysis of Puntos’ practices from the perspective of Complexity Science (Lacayo, 2006). In that study, I matched Puntos’ approach to the design of its multifaceted communication strategy “Somos Diferentes, Somos Iguales” to the concept that “the whole is greater than the sum of its parts”. I reviewed the different ways in which this concept has been explained in the Complexity Science literature and found them consistent with the way Puntos has designed its strategy and the thinking behind that design (Lacayo, 2006). This dissertation, on the other hand, deepens the thinking about Complexity Science as applied to Communication for Social Change, using Puntos’ experience to illustrate relevant concepts.

Scope of the Study

As a theoretically driven dissertation, this study provides a theoretical framework for the study of similar cases and to contribute to the literature on Communication for Social Change by illustrating the application – and the implications of application – of some key principles and ideas from Complexity Science. The study does not focus on the details of Puntos’ communication model and strategy, nor does it focus on the organizational changes and management issues that arose during their design and/or implementation (unless a given issue falls within the scope of this study and is perceived to enrich the theoretical understanding of the strategy). The study also avoids acting as an impact evaluation of Puntos’ strategy or assessing the value of Puntos’ work.
Research Ethics

Research was carried out in full compliance with the requirements set out by Ohio University’s Institutional Review Board for this type of study. Additional care was taken in the development of research protocols, which were designed using a minimum of scientific terms and constructs from Complexity Science that could either mislead the research participants (due to little or insufficient knowledge about Complexity Theory) or confuse and force participants to answer question in abstract terms or with suppositions instead of specific examples. In order to ensure participant comprehension, the principles and ideas from Complexity Science were used as a reference point for developing constructs that were then used in the interviews and during the group discussion and the workshop (see research Instrument or Protocol in Appendix A).

Case Study Method

Research was structured as an “instrumental case study” using the methods developed by Yin (2009) and Stake (1995). The application of the instrumental case study method was limited to the identification of examples of Puntos’ professional practice that provided relevant illustrations of Complexity Science principles.

The case study is an “empirical method of inquiry that investigates a contemporary phenomenon in-depth and within its real-life context, especially when the boundaries between the phenomenon and the context are not clearly evident and multiple sources of evidence are used” (Yin, 2009, p. 18).

Case study methods have been found appropriate for exploratory, descriptive, or explanatory purposes. Case studies have been used to describe processes (Lawrence &
Hardy, 1999), generate theory (Brown & Eisenhardt, 1997; Eisenhardt, 1989) as well as test theory (Yin, 2009). Any study attempting to answer a “how” or “why” question about a contemporary set of events or phenomenon over which the investigator has little or no control is best suited to a case study approach (Stake, 1995; Yin 2009). From a Complexity Science perspective, Anderson et al. (2005) proposed that the case study approach enables the researcher to study a phenomenon as an integrated whole. Thus, there are numerous arguments for opting for the case study as a methodological choice in this case, including the fact that the purpose here was to illustrate theoretical concepts with examples from the field.

A case study approach can be used to explore a range of the research questions, purposes and motivations. An instrumental case study,

Examines a particular case to provide insight into an issue or refinement of a theory. The case is of secondary interest and plays a supportive role in order to facilitate our understanding of something else in order to pursue the external interest. (Stake, 1995, p. 10)

Similarly, Eisenhardt (1989) stated,

Theory developed from case study research is likely to have important strengths like novelty, testability, and empirical validity, which arise from the intimate linkage with empirical evidence. Second, given the strengths of this theory-building approach and its independence from prior literature or past empirical observation, it is particularly well suited to new research areas or research areas for which existing theory seems inadequate. This type of work is highly complementary to incremental theory building from normal science research. The former is useful in early stages of research on a topic or when a fresh perspective is needed, while the latter is useful in later stages of knowledge. (p. 548)

In the case of this study, the organization itself is not the main focus of the study. The focus is instead on how Communication for Social Change can be informed by Complexity Science.
The next section provides further information on the fieldwork process, the criteria used for participant selection and documental sources and a detailed description of the methodological tools used in this study.

**Procedures and participants selection.** Fieldwork was conducted in Managua over a period of four months during the first half of 2012. This timeframe was adequate to gather all the necessary information for several reasons, including familiarity with the participant organization, prior extensive preliminary research, familiarity with the context and a focus on the organization’s conceptual model and communication strategy – rather than its implementation – as the unit of analysis. In addition, full cooperation from the participant organization facilitated fieldwork.

Participants for this study were selected based on the basis of three criteria: (a) their level of involvement and knowledge of the theoretical framework of the organization, (b) their level of engagement during the design of Puntos’ communication strategy and (c) their capacity and experience reflecting from a theoretical and practical perspective on Puntos’ social change model and its practical implications.

In general, participants were board members, program directors and selected program officers who have been especially influential in the design of the organization’s communication strategy.

As expected, participants provided in-depth, analytical insights from the perspective of those who have been active in the design and shaping of the organization’s communication strategies and those who have been in charge of implementing the strategies at a managerial level. Since this was not an evaluation of the organization’s
programs or of their impact, participants felt at ease reflecting about the theoretical background and implications of their organization’s approaches to Communication for Social Change.

In terms of textual material, the study included the review of the multidisciplinary literature on Complexity Science and strategic plans, project reports and relevant internal documentation from Puntos (e.g. internal essays, conceptual framework, grant proposals and institutional reports).

The next section provides a detailed description of the data gathering methods.

**Overview of data gathering methods.** The main data collection tools used in this study were documental analysis, conceptual workshops, in-depth interviews, group discussion and observation (documented through field notes from my interaction with participants).

**Literature review and documental analysis.** In terms of textual material, the study included a review of the multidisciplinary literature on Complexity Science and literature regarding Communication for Social Change as well as a review of relevant material from Puntos, including both internal documentation (e.g. internal essays, conceptual framework, grant proposals and institutional reports) and more public documents like strategic plans, project reports, and publicly-available publications by or about the organization.

The literature review on Complexity Science was an iterative process. The first review allowed for the identification of key principles and ideas that could be applied to Communication for Social Change initiatives. These principles and ideas were used as a
guide to identify illustrative examples from the participant organization’s work. Once the initial data was collected and analyzed, further reviews of the literature enriched the initial constructs and provided sharper insights for pattern matching, making the relationship between data analysis and Complexity Science literature an iterative dialogue.

Internal and public documents related to Puntos – as well as other data that were collected and transcribed during the research process – were read several times for patterns that suggested the underlying application of Complexity Science principles and ideas in the organization’s communication strategy and practice.

**Conceptual workshop.** A conceptual workshop with informants was one of the first methods of data collection. This workshop consisted of reflective exercises with key members of the Puntos team and helped informants explore, describe and analyze their social change model from perspectives different than the institutional discourse.

For the purpose of this workshop, I used techniques favored by Complexity thinkers such as the World Café. The World Café consists of “a conversational process based on a set of integrated design principles that reveal a deeper living network pattern…” (Holman, Devane & Cady, 2007, p. 180). In other words, the World Café allows for a “collective intelligence” to emerge about a certain topic. This technique “offers an easily accessible experience of how conversations create shared meaning…” (Holman et al., 2007, p. 183). This method was used to engage the participants into collectively systematizing what they perceived as Puntos’ social change model and some of the innovative features of its work.
Board members, program directors and selected program officers were invited to participate in the conceptual workshop.

**Semi-structured in-depth interviews and follow-up interviews.** Semi-structured, in-depth interviews with the organization’s board members, program directors and selected program officers with deep theoretical knowledge and engagement in the design of Puntos’ communication strategy were used to gather data for the case study. Informants’ knowledge of and level of engagement made them ideal contributors to this study.

The semi-structured interview format was selected in order to leverage the advantages of both structured and unstructured interviews. Semi-structured interviews provided greater richness in data compared with structured interviews and allow participants freedom to respond to questions and probes and to narrate their perspectives without being tied down to specific answers (Morse & Field, 1995). A semi-structured interview format also allowed for the emergence of themes or concepts not included in the original design and thus, it is consistent with the interpretative approach of this research. For instance, the identification of an innovation-nurturing organizational culture as an essential condition for the design and implementation of successful Complexity-informed approaches to Communication for Social Change emerged as a pattern in the interviews and became perhaps the most relevant finding of this study.

Follow-up interviews with selected participants were conducted in order to ask probing questions and enrich preliminary interpretations of emergent themes. Follow-up interviews allowed for triangulation of information.
**Group discussion.** A final group discussion was held with the participants to discuss the preliminary analysis. The group discussion technique provided the opportunity for a collective reaction to the analysis and for a large number of perspectives to be shared. It also allowed for the validation of the analysis and initial interpretations and the detection of previously identified patterns among participants’ responses.

The discussion guide for this exercise was generated after the preliminary data interpretation was completed. I presented the analysis to the group and facilitated a reflective exercise to validate and complement the analysis as well as to identify possible alternative explanations to my interpretations. As an added benefit to Puntos, the group discussion enriched the staff’s understanding and appropriation of the organization’s model and their communication strategy, which is consistent with the interpretative paradigm of this research.

Participants in the group discussions included all participants in the workshop plus some individuals external to Puntos that, according to Puntos’ directors, could make significant contributions to the discussion.

In general, the reaction of participants to the analysis was highly positive. Puntos’ members felt not only identified with the ideas put forward by Complexity Science but also the description of the principles and their possible interpretations and applications were discussed in the group as principles that should guide –in a more explicit manner– Puntos’ future strategies and programs. The participants coming from other practitioner organizations also felt the analysis, and especially the final recommendations, were meaningful and useful to guide their future work and they supported the idea of doing
complementary case studies to strengthen their significance and applicability in different contexts. Nevertheless, part of the discussion also focused on the challenges related to the application of these principles and ideas, especially in a context where funds are scarce and there is little understanding—and therefore support—to this kind of approaches to social change. Another challenge identified by participants was their own process of paradigm shift. It was clear in the discussion that while organizations (as a complex system) may have a non-linear vision of how social change happens, at the individual level, the organizations’ members may struggle with conflicting views.

**Observation and field notes.** Eisenhardt (1989) recommended that a researcher write down every thought provoked by data during the data collection process without judgment since it is often difficult to know what will and will not be useful when analyzing the data. A second recommendation is to “push thinking in these notes by asking questions such as ‘What am I learning?’ and ‘How does this case differ from the last?’” (Eisenhardt, 1989, p.539). These notes can thus range from cross-case comparisons and hunches about relationships to anecdotes and informal observations.

Beyond the notes taken during the interviews, workshop and groups discussion, I had opportunities to interact informally, and outside the research setting, with some of the participants, which gave me the opportunity to keep taking notes and writing down reflections and ideas that arose during these conversations.

In terms of methodological order, I first reviewed all the relevant documentation, from and about Puntos to have an in-depth understanding of its communication model and strategy. I then proceeded with the conceptual workshop followed by in-depth
interviews and finally the group discussion of the preliminary analysis. The field notes and observations were collected throughout the fieldwork period. The review of the literature was an ongoing dialogue with the data and interpretation of the data set since the beginning of the fieldwork until the writing of the final report.

The use of different sources and different data gathering methods enriched the analysis and allowed for a triangulation of the data collected by comparing and complementing the information gathered through each method. Furthermore, the use of complexity favored methodologies such as World Café and, in general, a conscious personal approach to the study from a Complexity Science perspective—not only in terms of its contents but also in terms of the process itself—allowed me to personally experience some of the principles of Complexity Science. For instance, I allowed my self the opportunity to have a general sense of direction, some minimum specifications on how to get there and let myself be surprised by the outcomes of the study, especially the ones related to the “structure” or “equation” that describe how self-organizing process emerge (see Chapter 4) and the importance of a organizational culture that nurtures innovation and co-evolution (See Chapter 5).

The methods and number of participants/units per method and the contribution of each research method to answering the research questions are depicted in Table 1 (below).

The next section provides a detailed description of how data was coded and analyzed.
Table 1.

*Data Gathering Design*

<table>
<thead>
<tr>
<th>Method</th>
<th>Participants / Units</th>
<th># Participants / Units</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review of the Complexity Science literature</td>
<td>Scholarly articles on Complexity Science.</td>
<td></td>
<td>RQ1, RQ2,</td>
</tr>
<tr>
<td>Review of institutional documents</td>
<td>Internal essays, conceptual framework, grant proposals and institutional reports, strategic plans and project reports, and publications.</td>
<td>45</td>
<td>RQ1, RQ2,</td>
</tr>
<tr>
<td>Conceptual workshop</td>
<td>Puntos’ Board members, program directors and program officers.</td>
<td>25</td>
<td>RQ1, RQ2,</td>
</tr>
<tr>
<td>In-depth interviews</td>
<td>Puntos’ Board members, program directors and program officers.</td>
<td>19</td>
<td>RQ1, RQ2,</td>
</tr>
<tr>
<td>Observation and field notes</td>
<td>Note taking of ideas, concept associations and preliminary interpretations of the data.</td>
<td></td>
<td>RQ1, RQ2,</td>
</tr>
<tr>
<td>Group discussion</td>
<td>Board members and programmatic staff and key individuals external to the organization.</td>
<td>25</td>
<td>RQ1, RQ2,</td>
</tr>
</tbody>
</table>

**Data coding and analysis.** Denzin (1998) has described “the art of interpretation” as the process of converting field observations and findings into text for the reader (p. 313). The “researcher, as a writer, is a *bricoleur*. He or she fashions meaning and interpretation out of ongoing experience” (Denzin, 1998, p. 315). Thus, interpretation is a complex and reflexive process of storytelling, where the stories told fit with the paradigms or perspectives espoused (Denzin, 1998).

For organizational purposes, I divided the data interpretation and analysis process in five phases. Some of these phases, such as the preliminary interpretation of the findings, began during data collection and continued through the elaboration of the final
report. The data were triangulated to facilitate the identification of paradoxes, especially between collective and individual discourses and perspectives, and to help clarify intricate issues. The five phases of interpretation and analysis were: (a) immersion, (b) category development, (c) data coding and analysis, (d) interpretation and illustration of the principles and ideas and (e) validation and synthesis. See Table 2, below, for a summary of these steps.
Table 2

*Phases of Data Coding and Analysis*

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activities involved</th>
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<tbody>
<tr>
<td>Immersion</td>
<td>- Review of the Complexity Science literature to identify principles and ideas applicable to Communication for Social Change efforts.</td>
</tr>
<tr>
<td></td>
<td>- Organization of the data collected and field notes.</td>
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<tr>
<td></td>
<td>- Iterative reading of texts.</td>
</tr>
<tr>
<td></td>
<td>- Identification of patterns (ideas and behaviors related to a certain Complexity Science principles or ideas).</td>
</tr>
<tr>
<td>Category development</td>
<td>- Develop categories based on principles and concepts found in the literature on Complexity Science.</td>
</tr>
<tr>
<td></td>
<td>- Coding of the data according to categories (pattern matching).</td>
</tr>
<tr>
<td>Data coding and analysis</td>
<td>- Refine the coding scheme and the different categories and crosscheck with data and the literature.</td>
</tr>
<tr>
<td></td>
<td>- Translation of relevant material from Spanish to English.</td>
</tr>
<tr>
<td>Interpretation and illustration of the</td>
<td>- Reconstruct interpretations into illustrative examples and explanations of principles and concepts applied.</td>
</tr>
</tbody>
</table>
| principles and concepts                    | Validation and synthesis                                                                     | **All the interviews, the group discussion and the conceptual workshop were digitally recorded and transcribed verbatim. I took extensive and detailed notes during each one of the sessions of my personal observations and reflections.**
|                                            | Once the research text was organized, I reviewed them several times to engage the material and identify patterns that match the complexity principles derived from the literature. The Complexity Science principles and ideas found in the literature review served as “lenses” for the matching pattern process. As I collected the data, and later when I reviewed the texts, I looked for ideas, behaviors, embedded values, theories and
other ideas underlying Puntos’ communication model and strategy that match and could illustrate the descriptions that Complexity Science thinkers made of systemic approaches to social change.

Since I had familiarized myself well with Complexity Science principles and concepts, I was able to identify a matching pattern upon hearing or seeing examples of self-organization, bringing the system to the edge or fostering innovation. For instance, La Boletina, Puntos’ feminist magazine, is distributed free to hundreds of organizations and women’s groups around the country thanks to its volunteer distribution network. From the explanation of the network’s origin and performance, I was able to identify the nature of the network as a self-organized and decentralized system and described it as such.

To be able to theorize about Communication for Social Change through Puntos’ strategy, the matching of Complexity Science principles and ideas to this organization’s theoretical model and strategy, is what I refer to as ‘pattern matching’, which implies putting both fields into dialogue and seeing how they can enrich each other. This interpretative process constitutes the main contribution of this study to the literature of both fields.

Once patterns were identified and matched using the scheme of categories developed by the literature (i.e. the set of selected Complexity principles and ideas), I proceeded to code all the data based on the observed patterns and plausible analogies. I continued analyzing the data to the point of saturation, where no new categories or sub-categories emerged. When I had all the data coded and a preliminary analysis
implemented, I translated all the relevant material from Spanish to English in order to answer the research questions.

I decided to conduct the coding and initial analysis of the data in Spanish because of the potential for meanings of words and metaphors to change when translated, and because it was also possible – as indeed happened - that some words, concepts and metaphors either did not exist in English or if they did, the essence was diluted or lost. Thus, in order to get a better grasp on the data and in order to respect the words, concepts and metaphors used by my informants, I conducted the translation exercise at the end of the data collection and analysis process.

The last stage of the data analysis process involved the group discussion with Puntos’ members and selected external individuals as described above. This activity provided an opportunity to enrich the analysis and increase its legitimacy. As Rubin and Rubin (1995) have stated, “the analysis is done when you can put together a theory that answers your research questions and that would be accepted by your interviewees as an accurate depiction of their world and thoughts” (p. 245). While it was not my intention to present an “accurate depiction” of Puntos’ Communication for Social Change model and strategy, I did aspire to present a complex and reflexive story that fits in with the paradigms and perspectives I espouse and those shared by Puntos’ staff.

While an interpretative approach entails certain level of subjectivity, Merriam (2002) stated that rather than trying to eliminate these biases or "subjectivities”, it is important to identify them and monitor them as to how they may be shaping the collection and interpretation of data. Also, since there are no agreed-upon guidelines as to
the right balance between description and analysis, the reader makes the judgment as to whether there is enough data to support the author’s interpretation. The bottom line, Merriam (2002) said, is whether the reader is persuaded that the findings make sense in light of the data presented. Furthermore, Peshkin (1988) goes so far as to make the case that one's subjectivities "can be seen as virtuous, for it is the basis for researchers making a distinctive contribution, one that results from the unique configuration of their personal qualities joined to the data they have collected” (as cited in Merriam, 2002, p. 5).

In the case of this study, both the participants and the researcher were located in a reality constructed by subjective experiences and each brought previous knowledge and perceptions to the discussion, there is a certain level of subjectivity in the construction and interpretation of the data collected that must be acknowledged. Thus, I recognize that the analysis of the data might not fully respond to the exact picture some participants, or outsiders, may have about my interpretation of the Complexity Science principles described or about the interpretation of Puntos’ model and strategy. I am willing to consider and respond to critiques from both of Puntos’ and readers. Nevertheless, as a theory driven study, my hope is to present a plausible explanation that invites others to consider alternative perspectives and I challenge the notion that a unique, universal truth is neither possible nor necessary.
Chapter 4: Analysis and Discussion

The data and analysis presented in this chapter is organized around the study’s two guiding research questions:

1. Which principles and ideas from Complexity Science could inform Communication for Social Change models and strategies and how?

2. What are the implications, for organizations engaged in Communication for Social Change, of applying Complexity Science principles and ideas to their work?

This chapter provides an in-depth exploration of the research questions through an illustration of the application of five key Complexity Science principles to Communication for Social Change, and more specifically, to the design, implementation and evaluation of Communication for Social Change endeavors. The chapter also explores the implications of a Complexity Science approach to Communication for Social Change for social change organizations.

Because the literature on concrete applications of Complexity Science principles to Communication for Social Change interventions is limited, a case study is an appropriate approach for exploring how these principles can be translated into practice. As mentioned in previous chapters, this study uses Puntos de Encuentro, a Nicaraguan, feminist, non-profit organization working in Central America, as its case study.

As stated in Chapter 1, while Puntos de Encuentro did not design its social change strategy based on Complexity Science theories, its approach to Communication for Social Change implicitly relates to and reflects a Complexity Science view of social change. A
previous study of Puntos suggested a connection between Puntos’ approach to social change and Complexity Science principles and ideas (Lacayo, 2006).

The use of Puntos as an illustrative case study helps to ground the principles in practice, but it is only one example of how the principles are – or can be – applied. While these examples serve to highlight potential implications, as explained previously, it would be unwise to generalize Puntos’ approach to other organizations applying the same principles. Nonetheless, the examples and analysis contained in this study can serve as a point of reference for other organizations, grant-makers, consultants and evaluators interested in exploring Complexity Science theory in the design of Communication for Social Change strategies and other development interventions.

The analysis presented in this chapter draws upon group discussions and individual interviews, institutional documentation and articles, theses and book chapters written about Puntos de Encuentro, field notes taken over four months of fieldwork, Complexity Science literature and my own experience and reflections on the topic. The analysis was carried out through the identification of matching patterns between the data transcripts and the Complexity Science principles and ideas presented and described in Chapter 2.

The examples presented here to help illustrate each Complexity Science principle are just that, examples of possible interpretations and applications of these principles and ideas. They do not pretend to act as a blueprint for the interpretation and application of Complexity Science in the design and implementation of Communication for Social Change strategies in general. Other studies in the same field will enrich the list of both
Complexity Science principles applicable to the Communication for Social Change field and their alternative interpretations and practical applications.

This chapter is organized into two main sections, one for each research question. The section related to the first research question reviews each of the Complexity Science principles described in Chapter 2 and in each case illustrates their possible interpretation and application through examples from Puntos’ approach to Communication for Social Change.

The section related to the second research question complements the first one by highlighting some of the implications and paradoxes of a Complexity Science approach to Communication for Social Change, including issues related to planning and evaluation, once again using examples from Puntos’ experience to illustrate these points.

As presented in Chapter 2, the principles of Complexity Science explored in this case study are:

1. All complex adaptive systems have interconnected and interdependent elements, dimensions and hierarchical levels;
2. System-wide changes can emerge from the quality of local interactions, learning and feedback;
3. In complex adaptive systems, order is emergent and self-organizing;
4. At the edge of chaos is where the system is more adaptable and creative;
5. Complex adaptive systems are non-linear, paradoxical, unpredictable and sensitive to initial conditions, time and scale.
The first four principles are explained and illustrated in the first research question. The fifth principle, which relates to issues of systems’ paradoxes and tensions and points to issues of strategic planning, funding and evaluation is addressed in the second research question.

**Research Question 1: Which Principles and Ideas from Complexity Science Could Inform Communication for Social Change Models and Strategies and how?**

Chapter 2 presented some of the Complexity Science principles discussed in the literature as relevant for the social change and development field.

The literature about Complexity Science and Development emphasizes the need for a new paradigm for social change and explores the appropriateness of applying Complexity Science principles and ideas in international development endeavors (Allen, 2003; Boudon, 1983; Chambers, 2008; Fotopoulos, 2000; Fowler, 2008; Lacayo, Obregón, & Singhal, 2008; Plexus Institute, 1998a, 1998b; Rihani, 2002; Verkoren, 2008). The literature also suggests potential new approaches to the design and assessment of international aid policies and programs (Bar-Yam, 2004a; Davies, 2003; Fowler, 2008; Jones, 2011a, 2011b; Lacayo, 2012; Patton, 2011; Ramalingam & Jones, 2008; Westley et al., 2007).

However, the existing literature, as reviewed in Chapter 2, focuses on Development and international aid policies in general and it targets policy makers, donors and grant makers, governments and multilateral agencies as its main audience. It does not provide analysis and recommendations specifically for the Communication for Social Change field and it is generally not aimed at practitioner organizations. To begin to fill
this gap, this chapter focuses on an analysis and discussion on the application of Complexity Science principles and ideas in the design and implementation of Communication for Social Change initiatives.

Each sub-section starts with a brief summary of the basic premise of the relevant principle and its relevance to Communication for Social Change, followed by examples observed in Puntos’ work that point to different aspects of possible interpretations and applications of the principle. Each sub-section then concludes with specific insights stemming from the analysis. These insights are taken up again in Chapter 5, in the form of recommendations, aimed primarily at practitioner organizations but also relevant to the international donor community, on Complexity Science in Communication for Social Change.

While the information and analysis is organized according to the respective principles, because the principles themselves are highly interconnected and interdependent – as with any complex system – there is some overlap between and among the principles and the examples used to illustrate them.

*All complex adaptive systems have interconnected and interdependent elements, dimensions and hierarchical levels.* The essence of this principle is that that social change occurs as a combination of individual behavior and the result of a complex set of interactions between individuals and their environment. Because of the complexities of these interactions, the effects of which are, in most cases, distant in time and space, it is extremely hard to attribute a linear or direct cause-and-effect relationships between interventions and effects. Since everything in a system is interconnected and
affecting each another, social change agents need to develop awareness of system-wide characteristics and take that holistic vision into account when designing their Communication for Social Change strategies. No matter how small a social change endeavor is, it will always affect and be affected by other elements in the system.

Complexity thinkers suggest designing communication strategies in a way that acknowledges the interconnection and interdependency of the different elements of the system and purposely use those interconnections to create synergy and propel the system toward change. This type of strategy will emphasize intersectionality and will be built on an understanding of the multiple elements, dimensions and systemic levels related to the change in question.

This does not mean that every social change organization needs to address all and each of the elements of a complex problem at the same time. No single organization can do it all. In fact, that would be unproductive. Rather, this principle implies is that social change agents should be aware of the diversity of factors, levels and issues involved in the social change process they are proposing and seek to understand how these elements interact with each other as those interactions may either facilitate or hinder the desired change. To use the Rubik’s Cube metaphor, sometimes moving the piece one wants to change will work; sometimes moving other pieces around will get the piece one wants to change into its “right” place.

A holistic perspective, such as the one proposed by Complexity Science implies having a multi-level and multi-method strategy, but it does not mean that efforts cannot be focused on specific elements. However, because it is necessary to take into account
other elements of the system and the context in which they all interact – including how those different elements and contexts affect and are affected by the work one does – social change agents should seek synergies between and among programs that generate movement in the system. It follows that creating awareness of system-wide characteristics and behavior among both social change agents and the public can provide conditions that instigate social change. Constantly monitoring the environment/context and dialogue with other actors about the trends and changes perceived is important in this regard.

Recognizing that it cannot address – or even attempt to address – all of Nicaragua’s women’s and youth rights issues and problems, Puntos de Encuentro has consistently sought to raise awareness among other key actors, non-governmental organizations, community groups, and the general public of the multiplicity and interlinked nature of these issues. Puntos uses mass media to link the “global” and the “local”, and the “personal” and the “political” in order to unveil the interdependency of macro and sub systems, linking the effects of that interdependency to the social changes it promotes. Puntos also takes advantage of its mass media and capacity building programs to engage organizations and the public on how the interdependency of these issues affects the way those issues are perceived by and affect individuals in their daily lives. Puntos’ work in these two areas of awareness raising will be described in the following sub-headings.

Linking the global and the local, the personal and the political. One of Puntos’ main contributions to the collective social change endeavor is a focus on awareness
raising among social change organizations and the public about the interconnectivity and interdependency of social change issues. Puntos does this is by producing and sharing communications products and by fostering open dialogues about the links between issues happening at the global or international level and their effects at the local level and vice versa. In addition to the geographical domain, Puntos also links the public sphere with the intimate or private sphere, an approach to “unveil the personal as political and the political as personal.”

A good example of this effort to link the local and the global, as well as the personal and the political, was the live television show, “Voces y Visiones” [Voices and Visions], co-produced by Puntos and Camila Films, a local production company, in 1995 over a two week period coinciding with the Fourth World Conference on Women held in Beijing. In this show, Puntos tackled each of the issues discussed at the Conference by inviting local leaders to debate the implications of those discussions and agreements in the daily life of Nicaraguan women. For instance, one day guests discussed the relationship between global economic policies, such as the increasing price of crude oil, and the economy of Nicaraguan households and another day, they discussed the relationship between international agreements on sexual and reproductive rights and the relevant Nicaraguan legislation as well as the mechanisms available to Nicaraguan women to uphold those laws and claim their rights to sexual and reproductive health services in their country.

Puntos’ training activities also help individuals make the link between what are often perceived as personal and private matters to their political, economic and cultural
dimensions by drawing attention to the patterns of oppression and discrimination in
Nicaraguan society, while acknowledging the interdependency between actors and their
environment. As Vilma Castillo, co-founder of Puntos, stated,

Puntos’ model includes the use of a psychosocial approach\(^2\) and experiential
learning methodologies\(^3\) in our strategy to help individuals to make the
connection between their personal issues and everyday events and what it is
happening in their community, in their country and in the rest of the world,
economically, politically, institutionally and ideologically. How everything is
interconnected and how everything that happens in the global context or macro
level affects and has implications for people’s life conditions, opportunities, rights
and access to resources. We work hard to “translate” the “global” into the “local”,
and \textit{vice versa}, so people understand the implications both ways. (personal
communication, April 6, 2012)

A third example of Puntos’ efforts to link the local and the global is through its
strategy for building social movements, which seeks to foster a sense of belonging among
small women’s groups and organizations to the larger women’s movement – in
Nicaragua, in the Central America region and internationally – and help them grasp the
role of each activist and organization in creating a strong, diverse and inclusive social

\(^2\) Psychosocial refers to the relationship between an individual’s psychological
development and their social environment.

\(^3\) Experiential learning is a philosophy and methodology in which educators purposefully
engage learners in direct experience in order to increase knowledge, develop skills and
clarify values. The word experiential essentially means that learning is achieved through
personally determined experience and involvement, rather than through received teaching
or training involving listening, the study of theory or hypothesis, or some other transfer of
skills or knowledge. Experiential methodologies aim to: (a) develop abilities and skills,
(b) clarify values, (c) increase knowledge and (d) stimulate relationships. It occurs in a
non-hierarchical and supportive yet chaotic environment where learners feel safe and can
take risks, despite being outside their comfort zones. In experiential learning processes,
learning occurs gradually, forming the basis for future learning and experiences based on
past experiences, successes and failures, consequences and results, risk-taking and
uncertainty and from reflection, feedback and critical analysis. For more on this topic see
movement. This gives organizations and activists a sense of being part of a larger whole.

As Amy Bank, former Executive Director of Puntos, explained,

Our purpose was to take the increasing number of small and medium women’s groups and organizations around the country [which were popping up] in an isolated and parallel way and make them feel part of something larger than just their own group or community. The idea was to break that feeling of isolation, give them access to available resources, strengthen their networking capacities to increase their impact and joint collective actions and to validate their effort within the frame of the larger purpose of the women’s movement. (personal communication, April 4, 2012)

Puntos’ feminist magazine, La Boletina, for example, helps women’s organizations making the link between the work of small groups and the broader goals of the women’s movement in Nicaragua.

When a group submits a news item for publication about a group of women graduating from a sewing workshop, for example, we don’t just publish the news, we frame it in a feminist analysis on how courses like those – even though they seem to reinforce traditional gender roles – can improve women’s lives by providing them the tools to achieve economic independence, increase their self-esteem and self-efficacy and foster networking and alliances. Then when they read about themselves, they too see their own work in a new way and feel proud to be part of the bigger movement. (A. Bank, personal communication, April 4, 2012)

The role of La Boletina in building a sense of belonging among women’s groups in Nicaragua was documented in Puntos’ second five-year external evaluation, published in 2000 (Rivera, 2000). Puntos’ networking and social movement building strategy is addressed more fully under Principle #2.

Uncovering the interdependency of social issues. Puntos has taken advantage of its mass media and capacity building programs to engage organizations and the public on how the interdependency of issues affects the way those issues are perceived and acted upon by individuals in their daily lives. Puntos’ Communication for Social Change
strategy, “Somos Diferentes, Somos Iguales” (SDSI), aims to promote change in individual behavior and attitudes by creating awareness among its audiences that each person embodies a number of different social conditions and can exercise both power and privilege and suffer oppression and discrimination at the same time (Puntos de Encuentro, 2009).

Since unequal power relationships exist not only at the macro level but also permeate relationships with spouses, children, friends, co-workers and communities, Puntos uses its mass media products and experiential learning methodologies to help organizations and individuals to better understand the interconnected nature and interdependency of these power relationships in daily life. Thus, Puntos focuses on the intersectionality of power relations and the commonalities among different issues, identities and oppressions in order to build alliances that are able to promote broad change.

For instance, Puntos’ annual youth leadership camp is a “safe space” where 150 young, grassroots leaders come together to break down prejudices and stereotypes about people who are different from themselves and to build new alliances. The camp brings together adolescent and young men and women, urban and rural, poor and not-so-poor, mestizos, indigenous and afro-Caribbean people, people with different kinds of physical abilities and disabilities, HIV-positive people who are willing to be “out”, people with different levels of education and sexual identities. They live in close quarters for twelve days with people whom they might be afraid of or even have disdain for, and they work
together on their mutually oppressive and discriminatory behaviors and analyze the implications of these behaviors at the community, organizational and societal level.

The story of Juan, a young community leader invited to participate in one of the annual youth camps, illustrates Puntos’ approach to intersectionality. In one of the camp’s activities, the facilitators lined everyone up at one end of the room and then asked the men to move to the other side of the room. Juan happily crossed over. He looked proudly at the other men with him, and at the women who were on the other side of the room. They crossed back and the group was reunited on one side of the room. Then, the facilitators asked that those who had ever gone hungry because their family did not have enough money to buy food to cross over. Juan hesitation before crossing over because he was less happy about this fact. Subsequently, the facilitators asked people to cross over if they had a physical limitation, if they considered themselves lesbian, gay, bisexual or transsexual (LGBT) or questioning, and so on. Juan crossed over for some and stayed back for others. There was some nervous laughter and some emotional moments. At the end, everyone had experienced being on different sides of the room at different moments. While Juan is young, dark skinned, and poor, and had suffered discrimination and violence because of these conditions, he is also male, heterosexual, and does not have any particular physical limitations and he recognized that he had more power and privileges than women, LGBT people and those with disabilities.

These multifaceted characteristics of all human beings are relevant since Complexity Science considers human beings to be complex adaptive systems in themselves. Therefore, when social change agents address the complexities of a group or
society they have also to take into account the complexities of its elements (humans as sub-systems).

Since only 150 people a year participate in the youth camp, Puntos realized it could use its mass media outlets, and especially television drama, to promote reflection and to bring something of the camp’s experience and perspective to a much broader public. Puntos turned to television, in part, because Puntos realized that drama formats allow for the complex treatment of complex issues. As Bank (2002) explained,

We know that people don’t process issues in isolation, and monothematic campaigns are often too oversimplified in their treatment of the issue at hand. We felt the need to address issues that are interrelated with each other in order to promote dialogue and debate around the complexity of each one. (p. 2)

In other words, Puntos understood that complex problems require complex approaches and decided to find ways to address these issues by making it “long and complicated” (instead of following the general advice for publicity campaigns to “keep it short and simple”) in order to show how social issues are closely interrelated with each other, and how people often engage in contradictory behaviors. So, in their first TV drama series Sexto Sentido, for example, the story of one character dealing with an unwanted pregnancy after being raped crossed with the story of another character that had to use emergency contraception after unprotected sex.

This use of television and radio dramas mirrors international experience. They have been used in reproductive health programs in dozens of countries all over the world. Their success is partially attributed to the possibility of intertwining and on-going storylines that allow complex and layered treatment of several themes at once (Lacayo & Singhal, 2008; Singhal, Cody, et al., 2004; Singhal & Rogers, 1999).
The magic is in the mix. Over a period of 15 years, Puntos discovered the various pieces of the puzzle that made for an effective long-term communication strategy. On the one hand, they perceived a cumulative dose effect with messages: more messages, presented in diverse forms, during more time increased the potential for positive attitudes and individual change as it increased the chances for the agents of the system to find the information meaningful enough to change their perspective on the issues addressed. Moreover, Puntos saw sense in addressing interrelated issues together to promote debate and dialogue on the complexity of the issues at hand. Thus, it began to develop campaigns that were not only poly-thematic but also disseminated through a variety of media and that could be promoted at different levels and over time. As Bank (2002) noted:

We believe the magic is in the mix because then you have both individual and social change catalysts operating simultaneously and over time. You get the benefits of both big scale and more concentrated face-to-face reinforcement at the local level…. The result is that the synergy of the integrated whole is definitely more than the sum of the parts. (p. 4)

Puntos’ strategy works something like this: a young person watches Sexto Sentido TV on the weekend on the national television station as well as the re-broadcast on the local channel. She also listens to Puntos’ radio show during a weekday and hears similar issues being discussed. She then calls in to express her opinions and feelings on issues that concern her. She learns about organizations working on social issues through the radio show and billboards in her town and she participates in their activities and seeks the services they provide. She joins a youth organization and is able to participate in one or more of the workshops and/or camps lead by Puntos, which provide her with skills and
materials to address these issues back in her local community. Finally, the casts of Sexto Sentido (TV and Radio) visit her school and provide an opportunity to discuss these issues with her classmates. All the while, community views have been changing given the media coverage and the collaborative effort of partner organizations on the ground.

One of Puntos’ most successful campaigns, “Necesitamos poder hablar” [We need to be able to talk], linked programs, formats and issues into one multi-media, multi-method, multi-thematic campaign aiming at raising awareness of machismo as a common-risk factor for HIV-transmission and sexual abuse. This approach was the result of all of the lessons garnered by Puntos’ from prior campaigns and initiatives. As Bank (2006) described,

[The campaign] not only disentangled issues like HIV/AIDS and sexual abuse, accompanying its young audience through the process of denial, decision making and social support network building, but also it promoted “acts of courage” – like denouncing the abusive grandfather or speaking out about being HIV positive – and linked these issues with sexism and other forms of oppressive power relationship, all part of Puntos’ vision that everything is interconnected and that one cannot, and should not, approach one form of discrimination and oppression without approaching all the others. (p. 3)

Implications for practice. In summary, the first principle encourages a new understanding of society and of the process of social change built around intersectionality. In addition, theories of change and action should be based on an acknowledgement and understanding of as many elements dimensions and systemic levels related to the change one seeks, as can be grasped. Then, this understanding should inform the design of communication models and strategies in a way that acknowledges the interconnection and interdependency of the different elements of the system and
purposely uses that interconnection to create synergy and propel the system towards change.

System-wide changes emerge from the quality of local interactions, learning and feedback. This principle emphasizes that it is the interaction between agents, and more specifically the quality or patterns of the interactions among the agents of the system, not solely the agents themselves that create a system. Information is what influences those interactions and learning, or change in dominant patterns, begins with the free flow of new-to-the-system information. Change occurs when the system as a whole finds the new information meaningful as it alters patterns of interaction.

This is why information should flow freely across the boundaries in complex systems. Information generates changes in both the sender and receiver, creating a transforming feedback loop. When the information received, either as new data or as feedback, is meaningful enough to the agents of the system, it propels them to learn new behaviors and change their patterns of interactions.

Thus, this principle suggests that Communication for Social Change strategies can be used to generate change in a system in the following ways: (a) promoting free flow of information, co-learning and co-evolution between agents and feedback loops within and across the systems, (b) promoting more and diverse interactions within and across the system using networking and alliance building), (c) strengthening transformative and new-to-the-system leaderships and (d) focusing on changing the current patterns of interactions – the implicit rules that guide how individuals relate to others within a circle
or system – both among the general public and between social change agents. The following sub-headings describe how these lessons are reflected in Puntos’ work.

**Alliances and networks.** Puntos’ intuitively understood the importance of alliances and networks in promoting social change. This is demonstrated in “Starting point: our key concepts,” a document that was put together in 2004 to introduce grant-makers to Puntos’ conceptual framework. The document noted:

The capacity to resist oppression increases when, beyond our individual behavior, we join efforts with others who are in the same situation – when women for instance get together to promote laws against gender-based violence. It increases even more when different oppressed groups make alliances with each other – adult women partnering young women to confront adultism, women allying with lesbian and gay groups to defend their sexual rights, African-Caribbean groups allying with indigenous people to combat racisms, and so on. In these kinds of alliances each group not only fights the oppression that affects them directly but also the oppressions that affect other groups in a more effective way. These struggles grow even stronger when we manage to build alliances between oppressed and dominant groups. (Puntos de Encuentro, 2004, p. 8)

Since movement building has always been one of Puntos’ core objectives, examples of this approach are observable in its work. First, Puntos’ communication strategy is based on creating spaces and processes, products and programs that help diverse, scattered organizations and groups connect and make alliances. Second, Puntos’ work has sought to change the pattern of interactions between these organizations by modeling the concept of “ally” with its own partners and by questioning and influencing the political culture of the Nicaraguan women’s movement. Both of these efforts are backed up by a more generalized effort to sway public and organizational opinion around issues of power, prejudices and stigma and discrimination. Puntos’ work in relation to
these two points, alliance building and influencing patterns of interaction, is discussed below.

**Linking the disconnected and fostering organizational alliances.** Through its communication strategy, Puntos engaged in and promoted a continual exchange of material and information in order to strengthen the capacity of the social movements to deepen their analysis of the political and social context, improve their work, lobby for changes in existing policies and laws and to implement nationwide campaigns and interventions. Members of the Puntos team regularly collaborated with national and regional organizations and media allies to develop linkages, exchange information and experiences, and coordinate efforts and activities. As Vanessa Cortez from *La Boletina* explained,

> Few organizations in Nicaragua can muster the resources and capacity to create their own media outlets; however, mass media are essential to create an enabling environment that supports the organization’s goals. It's vital to have mass media initiatives in addition to local ones to help legitimize local initiatives. The more mass media discuss an issue and the more they advocate for a change, the easier it is for local organizations in small towns and villages to talk about these issues too. (personal communication, April 16, 2012)

The organization’s efforts in this regard are clearly demonstrated through two examples related to Sexto Sentido Radio and La Boletina.

In relation to the first example, Kenia Sánchez, director of Puntos’ radio show, explained that the strategy used for the radio show tours took advantage of the show’s popularity to bring together local mass media and local organizations – entities that have probably never worked together before – in public events in towns outside the capital city.
The local media is excited about our arrival in their town. They want us to come because they see us as celebrities and because we provide a source of “free” content, which is something they can’t afford to pass up. (K. Sánchez, personal communication, April 17, 2012)

Simultaneously, Puntos would call on local organizations to host the event. These local organizations became the protagonist of the event, handing out materials, providing information and services and connecting with each other and with young people interested in getting involve in some of their programs, while Puntos’ radio team was animating the event, encouraging dialogue about issues and promoting local initiatives.

One of the most important outcomes of this approach is the visibility, credibility and potential for new collaborations.

We often hear about new collaborations resulting from encounters that occurred during the tour. Local organizations join forces and exchange more materials and information. They become sources of information for local media and local media are more willing to publicize the work of their local organizations. Everybody wins. Part of Puntos’ strategy is to promote decentralization, to empower social change initiatives at the local level and to link people and organizations that didn’t see their common ground and the tours help us to do that. (K. Sánchez, personal communication, April 17, 2012)

In other words, the tours affect the quality of interactions at the local level by building new connections and providing information that can be transmitted between newly connected agents and their respective publics.

The second example of Puntos’ efforts to foster alliances among social change organizations, this time specifically women’s organizations, is La Boletina. La Boletina was created to facilitate exchange between the disparate women’s groups that emerged after the defeat of the Sandinista government in 1990. As Lacayo and Singhal (2008) stated,
The new movement that emerged in 1991 sought to assert its independence from party politics and to embrace a wider range of different interests and ideologies. La Boletina sought to strengthen the movement by creating among these disparate groups a “sense of belonging” to a larger movement. (p. 24)

By publishing short reports on activities being carried out by diverse women’s organizations in rural and urban Nicaragua and thus publicizing the existence of a wide variety of groups and activities, the publication creates awareness of and a sense of belonging to the movement. Testimonies and essays written in simple language help provoke wider feminist debate on topical issues. Many of these pieces appear without an author’s name to highlight the fact that they are collectively produced and aim to promote collective reflection and ownership.

This strategy has succeeded at creating a sense of collective ownership of La Boletina within the women’s movement in Nicaragua. Lacayo and Singhal (2008) stated, unlike many publications produced by a specific organization, La Boletina is not a newsletter that highlights Puntos’ activities, and while many women and women’s organizations identify with the magazine they do not necessarily know who exactly publishes it. This has allowed the whole spectrum of organizations to see it as a magazine that speaks to them, not with ‘the’ voice of Puntos or of a specific organization, but as a source of information and analysis for women and women’s groups to share knowledge and promote informed debate. (p. 24)

Evaluations show that, in effect, Puntos has contributed to alliance building among grassroots organizations. An external impact evaluation of Puntos’ work that sought to measure the impact of Puntos’ capacity building work across Central America, showed that the links created through Puntos’ activities and programs have proven valuable and have enriched the work of organizations in several ways, including generating dialogue, connecting organizations within and across countries, instigating
joint efforts and providing organizations with a shared language and vision (Portocarrero et al., 2012).

The opportunity to coordinate helps organizations make the best of limited resources and put their concerns on the public agenda. At the same time, from Puntos’ perspective, these relationships allowed the organization to improve its practices and outcomes, and constantly adapt its strategies in a dynamic environment. As Bank explained in 2002,

We’ve invested more than 10 years working with and developing relationships of mutual respect and trust with these organizations – now more than 250 of them. That means that the storylines of the TV, the printed learning materials and the coordinated activities are grounded in local realities and respond to collective interests and priorities. From the local groups’ point of view, the materials they receive and get to use as part of their own program – and especially the tours by the TV cast members to local communities to talk about these issues – give them a value-added boost that they wouldn't otherwise have access to. (Bank, 2002, p. 3)

The number and diversity of Puntos’ allies increases the potential for emergent and self-organizing outcomes. (The idea will be explored more deeply in Principle 2.) From a practical perspective, “Somos Diferentes, Somos Iguales” (SDSI) could not have been implemented without Puntos’ long history of developing collaborative relationships with partner organizations and its active involvement in Nicaragua’s women and youth movements. As Lynch (2006) explained,

Puntos “grounds” its approach to social change in its relationships with a range of organizations working primarily at the local level. As a national NGO focused on the production of mass media and supporting educational materials, Puntos relies on these groups to provide the grassroots connection, as well as the distributional infrastructure, that ensure that the ideas put forth in Puntos’ media will be taken up by organizations and communities working to build momentum for social change. (p. 16)
Furthermore, the content of Puntos’ media products are intensely negotiated and validated with a large group of diverse stakeholders, mostly local organizations, in order to increase the significance of the messages to the system they aim to influence. These are the benefits of having invested in these relationships.

The information received by Puntos in the form of feedback from other organizations creates new patterns of thought at the macro- or organizational level that help improve Puntos’ work. These new patterns are also returned the organizations in the form of new knowledge. This feedback loop is what helps Puntos and its partner organizations co-evolve. In other words, the simple experience of building relationships with other organizations and participating in a growing network is a whole learning process by itself, both for Puntos and for its organizational allies.

In summary, the importance of networks in spreading new information through a complex system can be applied to social change through a focus on alliance- and network-building among social change organizations. Puntos’ work provides an example of how a Communication for Social Change strategy can contribute to the creation of an enabling environment that increases the frequency and quality of the interactions between elements, in this case social change organizations. Puntos achieves this by building a strategy that not only creates a sense of unity between actors, but also facilitates horizontal exchanges between these actors and provides opportunities for the identification of common ground.

*Changing existing patterns of interactions: Diversity and cooperation.*

Influencing the political culture of Nicaraguan social movements – and especially the
women’s movement – is at the core of Puntos’ mission and vision (Lynch, 2006). Puntos uses two different approaches in this regard. First, Puntos promoted leadership diversity and second, it modeled cooperation and a concept of ally that denotes partnership based on mutual benefits, respect and co-learning.

The promotion of leadership diversity aims to change existing patterns of relationships within the women’s movement by introducing new or disturbing elements, such as alternative perspectives, new leadership styles and different kinds of partnerships, into the system’s status quo. At the same time, modeling cooperation and promoting a concept of alliances based on win-win relationships, aims to change existing patterns of interactions within the social movements by introducing new ways of interacting and organizing to achieve system-wide change.

With regards to promoting leadership diversity, some of Puntos programs, such as “La Universidad de las Mujeres” and the annual youth camps, sought to strengthen the leadership capacity of marginalized groups, especially young women, women from non-mestizo and non-white backgrounds and LGBT people. Supporting emerging leaderships of young women, lesbians, non-mestizo and non-white women and women with disabilities within organizations and within the social movements is one way of promoting diversity. The decentralization of activities and resources outside the main cities also promotes diversity (Portocarrero, et al., 2012; Puntos de Encuentro, 2004, 2009).

Yet, strengthening individuals’ leadership capacity is not enough, because an internalized culture of oppression and discrimination means that women, even those that
fight for women’s rights, also engage in racism, ageism (the abuse of unequal power relationship based on age), heterosexism and other forms of oppression and discrimination and, furthermore, they reproduce these forms of oppression as part of the dominant political culture permeating organizations and social movements. As Vilma Castillo, one of Puntos’ founders pointed out,

Even within the women’s movement we reproduce patterns of oppression and discrimination. Young women, lesbians, women from the Atlantic Coast and women with disabilities are often underrepresented and their opinions underestimated due to the prejudices that permeate our culture in general. Organized women are not immune to the patterns of oppression and discrimination embedded in the society we all live…. Our first challenge is to break those patterns within the social movements, specially the women’s movement, in order to make them stronger, more inclusive and coherent to the notion of social justice we pursue. (personal communication, April 16, 2012)

Thus, Puntos’ leadership training efforts sought to break down stereotypes and make leaders more aware of their own prejudices and how they influence their actions, in the hope, on the one hand, that they would take their new knowledge and changed attitudes back to their home communities and on the other, to provide opportunities for different groups to have the chance to appreciate the potential of diversity and cross-sector alliances.

The youth camp, for instance, is a great way for Puntos and the participant organizations to perceive the value of diversity and to find common grounds between different groups around social change issues, but most importantly, it creates the right conditions for them to make strategic alliances with each other so they are better prepared to return to their local organizations and communities. (R. Reyes, personal communication, April 10, 2012, emphasis added)

One way Puntos fostered diversity among these alliances was by inviting one adult leader from each participant organization to the annual youth leadership camp and encouraging
them to become strategic allies and support the leadership of the young members of their organizations.

From a Complexity Science perspective, diversity is important because it introduces new elements that enrich the system’s perspective and thus increases the innovation capacity of a given system, be that an organization or an alliance.

Turning now to how Puntos encouraged new forms of alliances, it is important to recall the idea of “organizing” as expressed by Papa et al. (2006), meaning the informal, unstructured set of interactions between a diverse group of elements, including individuals and organizations, working in a more or less self-organized way and in which each element plays a role in the organizing process toward one or more common goals by orchestrating people’s talents, resources and skills to enhance their collective power. Both the goals and the elements working together to achieve those goals can emerge and change over time.

Complexity thinkers believe this kind of decentralized, flexible, evolving, semi-structured way of organizing is more effective in the context of complex systems since it allows actors to perceive and adapt in a timely fashion, through a scattered system of trial and error, to the changes in the environment and thus improves a system’s chances for evolution. This decentralization and flexibility is what makes this form of association effective (Johnson, 2009).

However, engendering alliances with these qualities is easier said than done in a country like Nicaragua where overcoming the political culture is one of the greatest
challenges that autonomous activists face in their effort to work together across differences. As Lynch (2006) explained,

The dominant political culture [in Nicaragua] is complex, characterized by fierce party loyalties; a confrontational approach to change; a top-down, vertical model of organization and decision-making; and a history of forging inter-party “pacts” and “alliances” to achieve political goals. (p. 19)

Furthermore, Lynch (2006) added,

Most Nicaraguan activists, NGOs, and social movements trace their political roots to the revolution, which makes the political paradigms established during this period a continual touchstone against which they define their work. In such a landscape, even the word “alliance” is charged with political meaning. (p. 19)

Since complex systems respond to internal and external feedback, including the information from the past, such as historical experience or memory of past successes and failures (Johnson, 2009), it is logical that emerging social movements, even those whose members are individuals irreverent enough to question traditional organizing patterns and structures, have the tendency to follow traditional structures, leadership styles and organizing patterns (i.e. traditional, vertical, authoritarian and closed), as these patterns constitute the system’s shared reference of “successful” organizing.

The challenge is to provide the system with a different, yet equally persuasive, feedback, in the form of new information and experience that can inform and lead the behavior of the system in a different direction – in this case, toward a different way of organizing.

The alliances developed through Puntos’ activities changed patterns of interactions previously established between agents in the system, but that is not the only way Puntos promoted different kinds of relationships. Puntos also modeled the concept of
“ally” as a way to invite other organizations to “walk their way to a new thinking” about alliances and networks.

An external impact evaluation of Puntos’ work that sought to measure the impact of Puntos’ capacity building work with ten social organizations from across Central America in the areas of encouraging individual and collective action, organizational autonomy and the promotion of young and adult women’s rights indicated that,

While Puntos has played an important role facilitating the construction of local alliances, it does so by respecting the autonomy of local organizations; instead of imposing on them its own rules and procedures, Puntos accompanies the organizations in their own process and helps them, when asked, to adapt the methodologies and contents to the organizations’ needs and objectives. (Portocarrero et al., 2012, p. 27)

By modeling a role of ally that is cooperative, generous, respectful, inclusive and supportive, Puntos aimed to encourage other organizations to see the benefits of this kind of approach, not only for their relationships as organizations, but also for the achievement of their common goals.

Douglas Mendoza, from the youth camp team, recalled many cases where organizations that have worked with Puntos or have participated in Puntos’ activities, created alliances to reproduce their experiences with Puntos in their own localities or countries and that they were not afraid to ask Puntos for help. Mendoza explained that this openness was due to the fact that Puntos acted and was recognized as a true ally:

We approach alliance-building processes as a collective work. The kind of feedback we receive from our partners is that we don’t act as if we own the process and other organizations are our ‘targets’; we pay close attention to the language we use, how we refer to ourselves and to others, and that we make an effort to always emphasize the contribution that each organization is bringing to the table and to acknowledge successes as collective ones…. I think what we do is to constantly remind ourselves that we need them at least as much as they need us
and our resources, and that being generous can only bring us more opportunities for success. (personal communication, April 17, 2012)

Formal and informal feedback from Puntos’ partner organizations confirmed the added value that Puntos brought to the table when inviting organizations to form alliances and to coordinate collective actions. It was not only the material resources and skills, not easily acquired elsewhere, that organizations received from Puntos and were grateful for, but also the role modeling Puntos provided in terms of building new kinds of relationships. As Sheila Vega, from the youth camp team, stated,

People [from participant organizations] often say that what they take out of their experience working with Puntos, and I mean not only the camp but also the workshops and public debates we implement and even the coordination meetings we hold, is what they learn, not only in terms of concepts and methodologies, but mostly in terms of “ways to work with others”. They pay close attention on how Puntos works with others, the way Puntos addresses them, the way it builds and nurture relationships. They say this attitude and behavior makes a difference in their understanding of what we try to convey as changing the patterns of oppressive interactions and it helps them to bring the concepts home and to apply them into their work. (personal communication, April 16, 2012)

Moreover, providing information, innovative methodologies and modeling new ways of interacting with others would have been insufficient without allowing the organizations the freedom to try and adapt these resources to their own needs, contexts and styles. Douglas Mendoza, from Puntos’ youth camp team, recalled a response from a group of youth camp alumni interested in replicating the youth camp experience in El Salvador:

What we like about you [Puntos] is that you are not a franchise such as McDonalds. You have great ideas, produce very useful materials and manuals, but you don’t impose on us when and how we can use that information. We don’t even need to request your permission to use them to develop an initiative of our own, and that is what makes you so cool. We feel that you care more about us trying out what we learned and about the kind of things we can build together,
than about us messing around with your stuff. (personal communication, April 17, 2012)

Puntos’ perspective on alliance building and the nature of organizing for social change influenced how it sees the Nicaraguan women’s movement as a whole and to act in ways that attempt to influence the pattern of interactions of the movement. One area of work is challenging the idea that the women’s movement in Nicaragua requires a formal, hierarchical leadership and official membership in order for the movement to work in a sustainable, efficient and effective matter (Lynch, 2006).

Consistent with this view, Puntos argues that the Nicaraguan women’s movement is something greater than the group of organizations that get together most frequently to discuss shared concerns and plan collective actions and thus, Puntos contends that the movement should be inclusive and work in ways that provide the necessary conditions for its agents to self-organize – as many times as needed – to create and re-create order in the system in line with its needs and shared vision and mission at any particular point in time.

Puntos sees the Nicaraguan women’s movement as the sum of potentials of all women – individually and collectively – to change the reality they live in their home, community, country and world. We state that this movement doesn’t have a leader but many female leaders spread all over the country and leading in different ways and from different initiatives and context. Each one of them adds to a women’s movement that is completely decentralized yet consistent and coherent as a unit. (E. Flores, personal communication, April 10, 2012)

Furthermore, the idea of diversity and collective leadership promoted by Puntos within the women’s movement responds not only to a sense of democracy and pluralism, but also to Puntos’ intersectionality approach to social change discussed under Principle 1.
As Martha Juárez stated,

We contend that the diversity of identities and perspectives in the Movement as one of its most relevant features and strengths. Neither a single individual nor small groups can represent the multiple backgrounds, perspectives, identities and issues faced by all the individuals and groups that form the women’s movement, so an open structure forces us to listen, discuss and find common grounds between each other. This dynamic has many downfalls in terms of efficiency and implies some level of frustration with the process, but when we, as a movement, agree on a specific project, we all have a strong sense of ownership and commitment toward this project and a shared vision that it is hard to generate within traditional hierarchical structures where the ideas come from a few that pretend to represent the diverse majority, as happens in more traditional organizational settings. (personal communication, April 6, 2012)

Puntos’ perspective of collective governance is why Puntos, in spite of being one of the largest and most resourceful feminist organizations in Nicaragua, always declined an “official” leadership position within the women’s movement. Instead, its strategy is to use its resources to promote a new way of interacting and organizing and to model this behavior within the social movements in which it participates.

While Puntos explained its stance on the issue through its values, Complexity Science provides an additional rationale for supporting self-organizing in the movement, namely that self-organized structures are likely to be more robust and independent than externally imposed orders.

If the new order is ‘designed’ in detail, then the support needed from the official leaders will be greater, because those involved have their self-organising abilities curtailed, and may thus become dependent on the designers to provide a new framework to facilitate and support new relationships and connectivities…. However, if organisation re-design were to concentrate on … allowing the new patterns of relationships and ways of working to emerge, new forms of organisation may arise that would be unique and perhaps not susceptible to copying. These new organizational forms may be more robust and sustainable in competitive environments. (Mitleton-Kelly, 2003, p. 14)
Like many non-profit organizations, Puntos competed with its allies for scarce resources, including time, funds, staff and visibility. However, Puntos’ perceived generosity and supportive attitude came from the notion that competition and cooperation are not mutually exclusive and that strong alliances are essential for the accomplishment of organizational goals. This paradox of competition versus cooperation will be explored later in this chapter, but it is important to highlight here that in order to change the patterns of interactions between the agents of a given community, it is easier to change one’s own behavior and the way one relates to others than trying to change everybody else’s behavior in one go.

**Leading by example.** Were social change organizations to see the world as “one divided not into different groups of objects or subjects but into different groups of connections [in which the] distinguishable and important is the kind of connections” (Wheatley, 1999, p. 73), Puntos’ approach to alliances and movement-building can be seen as an attempt to be the difference that makes the difference in the existing political culture of the women’s movements by modeling alternative leadership styles and ways of interacting with each other and organizing collective actions.

Martha Juárez explained the rationale behind this approach:

We [Puntos] believe that if one part of a system changes, the whole system has to move to adapt itself to the new situation. Nothing is static; everything is constantly moving and changing. We are all part of that system: individuals, organizations, networks, even the women’s movement itself is a system within a greater system. To change the system we have to do it from inside. (personal communication, April 6, 2012)

Puntos’ hypothesis was that if one strong leader organization, such as Puntos itself, started breaking the pattern of interaction by modeling a new type of leadership
and partnership, this would provide alternative feedback to the system that, at the very least, would make noise. Then, were other organizations to see the benefits of following that behavior – either for convenience (such as access to valued resources, reputation or skills) or conviction – the pattern of interaction between these organizations would necessarily change, and sooner or later it would reinforce the alternative feedback and affect the pattern of interaction of the whole system. Indeed, external evaluations and studies have demonstrated changes in patterns of interaction between organizations in Puntos’ sphere of influence (D’Angelo & Welsh, 2006; Lynch, 2006; Portocarrero et al., 2012; Rivera, 2000).

From a Complexity Science perspective, this is an appropriate approach to whole-system change. In complex adaptive systems, such as the women’s movement, the interactions between the interdependent agents appears random when viewed individually, but a global view of the system uncovers system-wide patterns of behavior. These patterns are based on “basic rules”, often unwritten, that guide the interactions between people and between the organizations and institutions they create.

Eventually, proven rules are often codified in laws or conventions, becoming part of society’s formal arrangements. Because they emerge from context-specific social processes, the rules in play – be they formal laws or conventions people follow – contain implicit information about standards and norms that are used or avoided (by groups in society). (Fowler, 2008, p. 5)

In the case of the Nicaraguan women’s movement, the organizational culture of political parties, rooted in violent conflict and power struggles, permeates the political culture of the emergent women’s movement, which was initially led by feminists with an active history of activism during the Sandinista revolution. It is not surprising then, to
observe implicit rules of competition for resources and leadership, polarization, exclusive alliances and zero-sum or win-lose approaches to relationships and exchanges embedded in the patterns of relationship of groups and organizations (Lynch, 2006).

Understanding what rules work in a certain system and explicitly addressing and changing those basic rules – by promoting and modeling new ways to relate with each other and by creating conditions that promote diversity and exchange – is consistent with how Complexity Science suggests that patterns of interactions within a system, and therefore its behavior, can be changed. The unveiling of dominant rules and satisfactory experience with alternative patterns (i.e. the obvious benefit perceived by each individual) can provoke slow but consistent change in relationship patterns and the organizing of the system.

Nonetheless, Puntos organizers have reflected that only modeling new patterns without explicitly highlighting unstated rules for interaction between peers, perhaps held up the process of information transmission and that being more explicit about their approach to peer interaction might have given other agents meaningful information that would have facilitated change more quickly (A. Criquillion, personal communication, March 6, 2013).

Indeed, changes in the basic rules of a system occur faster when combined with efforts aimed at shifting current paradigms at the individual and collective level. All agents in every complex system make decisions based on the information they have available to them at the moment of making that decision. This information can be obtained from of past experiences, including individual and/or collective experiences and
memory, or as inputs received from the environment in the form of feedback to their actions or pieces of new data.

New meaningful information provides the system with alternative choices about its behavior. New information changes the agents’ understanding of the world surrounding them; they start seeing the world from a different perspective. This new understanding fosters a change in the way system’s agents interact with each other and with their environment. This paradigm shift is essential for the system to change and evolve. Once the system perceives the world differently, it is compelled to change its behavior in order to adapt itself to the new conditions around it.

**Implications for practice.** In summary, from a Complexity Science perspective, it is the interaction of elements that creates the nature of a system and therefore, new ways of interacting impel a system toward change. Information or feedback can alter patterns of relationship and feedback is distributed throughout a system via networks. What is required, in this case, is new meaningful information that provides new alternatives within the system.

This understanding of system dynamics has several implications for the field of development and social change.

First, social change agents should pay attention to the patterns of relationship established in the population or group they are working with. Focus on individual change is not enough if this new behavior does not change the way individuals interact with each other. For instance, increase in the consumption of condoms should be accompanied by a positive attitude toward gender equality and a decrease of stigma.
Second, social change agents should also pay attention to the interactions between social change agents working in the field and to the environment in which they operate as a nurturing environment will facilitate their work. On the one hand, it is important to assess if social movements and networks operate in an environment that enables innovation and self-organization or if are they reproducing vertical and restrictive organizing practices. On the other hand it is important to consider whether or not competition for scarce funds and reputation is hindering cooperation and synergy among agents.

Third, it suggests that social change organizations and donors should invest in alliance and network building among social change agents. It is important to note that this movement-building approach contrasts with how capacity building currently occurs in development interventions.

The capacity-building approach that has come to characterize development discourse and practice in a funding climate that often puts professionalism first and activism second. In this climate, donors frequently put out requests for projects based on technical themes (adolescents, HIV/AIDS, sexual and reproductive health) rather than political strategies (movement-building, mobilization, advocacy). (Lynch, 2006, p. 16)

Furthermore, this principle suggests that to promote social change, social change agents need to strengthen the networking capacities of organizations so they have better conditions to self-organize and promote a political culture that improves the quality of those interactions. This implies, in part, a need to build (different) leadership skills among both individual leaders and organizations to facilitate alliance building.

The next section will provide a concrete example self-organization within a complex social system.
In complex adaptive systems, order is emergent and self-organizing. The study of complex adaptive systems has led to the conclusion that, in these types of systems, control is decentralized and order emerges in a self-organized way from the interactions among its agents. The emergence of self-organizing phenomena is unique to complex adaptive systems, and it occurs when the following conditions apply: there is a crowd of independent agents, interacting with each other and interdependently adapting their behavior to the reactions or feedback received by others and their environment and furthermore, they are competing for scarce resources, and cooperating with each other as an intuitively effective approach for meeting shared goals or a common purpose.

This principle encourages a shift in management models from directing and controlling to promoting self-organizing (sometimes referred to as liberating collective intelligence and creativity) and from attachment to outcomes to focusing on improving processes.

Perhaps the best example of a self-organizing process one could observe in Puntos’ work is the distribution network for Puntos’ magazine, La Boletina.

Despite the obstacles posed by the lack of a national mail system (or indeed street addresses), bad or non-existent roads and limited telecommunications coverage, La Boletina has grown into the magazine with the largest circulation in the country (Lacayo & Singhal, 2008). It has a press run of 26,000 and a national readership of 150,000. Evaluations show that on average six people share each copy. A fundamental element of its success is its unique distribution system.
La Boletina’s distribution network consists of a self-organized group of volunteers that physically carry copies to local communities for further, wider distribution. This system ensures that the magazine reaches all parts of the country, even highly isolated communities where newspapers remain rare, thus making it the only accessible publications for many rural women (V. Cortez, personal communication, April 16, 2012).

Puntos’ staff have attributed the magazine’s reach to the fact that La Boletina is free and distributed by hundreds of volunteers.

[The volunteer distributors] travel long distances in buses and canoes to the main cities of the country to pick up packages of the magazine brought from Managua by other women’s organizations and hand carry them to towns and villages all over the country where they are then distributed to local groups, and these in turn, to even smaller groups in isolated communities. (M. Juárez, personal communication, April 6, 2012)

Each distribution volunteer distributes La Boletina to smaller women’s groups and organizations in their communities that have been subscribed to the magazine. Each node in the distribution network is in charge of making sure the magazine reaches subsequent nodes. This absence of centralized control in the distribution of La Boletina provides a lot of freedom for emergence and re-organization within the system. Sometimes, Vanessa Cortez explains, “an organization may close their office, and then the whole distribution system has to change to adapt itself to the needs and conditions of what is left behind” (personal communication, April 6, 2012).

The popularity of La Boletina has led some donors to suggest Puntos sell the magazine in order to contribute to its sustainability. Others have suggested that Puntos control its distribution more closely in order to better assess La Boletina’s impact. But
Puntos’ staff have argued that “by doing so we will tear down what we value as the most important distinctiveness of La Boletina: its volunteer-self-organized distribution network” (A. Criquillion, personal communication, October 6, 2006).

According to Puntos, this self-organized distribution network “works on the principle of solidarity and is sustained by mutually supportive relationships between women’s groups. Puntos didn’t plan the distribution strategy, and has no direct control over it. It just weaved itself” (M. Juárez, personal communication, April 6, 2012). While this is one way to understand and explain the self-organized phenomenon of La Boletina’s network, Complexity Science provides an alternative, complementary, explanation.

La Boletina is a good example of a self-organizing, self-governing, adaptive, nonlinear, complex organism, organization or system, which blends order and chaos as described by Hock (1999):

Change comes about when people act as an interconnected group and behavior is induced, rather than compelled. Hence, the old notions of management through command and control are out, and new notions based on mutual understanding and coordination are in. (as quoted by Flynn, 2004, p. 4)

First, all volunteer organizations are independent agents – of the women’s movement system – that interact with each other on the basis of the common interest of protecting and promoting women’s rights.

Second, La Boletina is a highly valued resource among women organizations for its multiple uses – including knowledge acquisition, capacity building and a discussion and networking tool – and yet the limited print run is far from been enough to keep up with the continuously increasing demand. So, even though it is free of charge, women’s
organizations have to compete to some extent in order to have access to it. Puntos’ only requirement for including a new group or organization on the distribution list is that the petitioner explains how it will use the magazine, how many women will benefit from it and in which way. However, volunteering to be a node in the distribution network provides leverage in terms of guaranteed access to the magazine as well as other political benefits. As Vanessa Cortez, current director of La Boletina, explained,

Since La Boletina is not seen as a Puntos’ magazine but as the women’s movement’s magazine, the organization that distribute it gains, by association, an implicit recognition of its leadership among the local groups in its community, which in turn, also increases their image as a resourceful and opinion leader organization among the community in general. So it is expected that organizations that can afford the effort of becoming a distributor of La Boletina in their communities will be willing to do so. (personal communication, April 16, 2012)

Third, while women’s groups and organizations compete for the limited number of editions, all these entities (and especially the volunteer distributors) also need to coordinate and cooperate with others to successfully allocate the magazine among beneficiaries. Trying to withhold La Boletina for the benefit of one single organization benefits no one, not even the organization with the magazines. Part of the rewards of having access to La Boletina and to being one of its distributors is precisely that it is a shared resource among the women’s movement and benefits the women’s movement’s purpose as a whole. Thus, the system has a shared purpose. In this case, the women’s movement needs to have access to resources that improve knowledge, skills and leadership capacity to fight for women’s rights.
Thus, La Boletina is widely ready and distributed not only because it provides pertinent information but because the system has been able to self-organize around its distribution.

**Implications for practice.** Self-organization in a complex system cannot be forced or centrally controlled from outside. It has to be a spontaneous reaction of the system to the challenges presented by the changing environment. Yet one can facilitate and encourage this process by creating enabling conditions. Fostering a shared, whole system, purpose, the need to compete for valuable yet scarce resources combined with the need to cooperate with others in order to fulfill one’s and the whole system’s purpose and providing the right degree of structured freedom – that is, the freedom to self-organize within the range of few simple rules – to allow for self-organized phenomena to arise.

Yet, while one might want to encourage the natural competitiveness of agents in a system, by providing resources for which they can compete and conditions to nurture self-organization – in other words, the freedom to adapt their strategies to the ever-changing context – in the case of social change endeavors, it is more important to collectively construct a shared, system-wide purpose and strengthen both the quantity and quality of connections and interactions as this will form the patterns of interactions that will transform the system, as was discussed in the previous section.

This is extremely relevant for the fields of International Development and social change. Social change program designers should attempt to have a clear vision of the desirable change, plan no more than is absolutely necessary to launch a particular initiative and let the direction arise as the initiative develops. In other words, efforts
should be concentrated on enabling the right conditions for self-organization. In the words of Morgan (1986), “the role of grand designer should be avoided in favor of the role of facilitation, orchestration and creating the enabling environment that allows the system to find its own form” (as cited in Ramalingam and Jones, 2008, p. 23).

Unfortunately, this is not the way development aid works. Chambers (1997) argues that top-down attempts to manage complex interrelations have not worked in development aid and that such efforts have resulted in dependency, resentment, high costs, low morale and actions which cannot be sustained. In this sense, he argues that the key is to minimize central controls and to pick just those few rules, which promote or permit complex, diverse and locally appropriate behavior.

Complexity Science, therefore, invites practitioners and aid agencies to understand that many problems may be better addressed by facilitating self-organization. Self-organization seeks to strengthen relationships among agents working towards complementary goals and to bring them together to facilitate change on a large scale. This often means a focus on multi-stakeholder participatory processes. However, such processes do not themselves always lead to self-organization. In order to self-organize, actors must have the freedom to act and get feedback on their actions.

In summary, this principle encourages a shift in approaches regarding social change management and leadership from ideas about directing and controlling to ideas about promoting self-organizing, and from attachment to planned outcomes to a focus on improving processes.

The next Principle explores this idea of improved process more deeply.
At the edge of chaos is where the system is more adaptable and creative. This principle conceptualizes crises in systems as opportunities to innovate. While all systems, by their nature, seek stability, adaptation occurs in the space between chaos and stability, or better said, between newness and the status quo.

In order to push a system forward, social change agents need to challenge the status quo or open up the system’s boundaries by introducing new elements into the system. These new elements, which can be new settings, new information, new perspectives and ideas, new or different people or new experiences, if they are meaningful enough to the system, will propel the system to adjust its understanding of the world and therefore adjust itself to its new reality.

In human systems, boundaries can be challenged by engaging people on difference and by introducing new provoking elements (Kimball et al., 2004). Information that disturbs may be perceived as a threat to the validity of agents’ beliefs because it questions their worldview and their behavior, but this disequilibrium forces agents to analyze their values and beliefs and make choices, probably new ones. By challenging peoples’ mental models, pitching “old” ideas against “new” ones, new ways of thinking and interacting with others, and different lifestyles, unexpected attitudes and behaviors can emerge and flourish.

There are many ways in which social change agents can promote paradigm shifts. Puntos de Encuentro, for instance, aims to push the system to its “edge” by using its mass media and capacity building platforms to deconstruct dominant discourses and foster a critical mass for an alternative discourse. The strategy also prioritizes democratizing
debate and promoting participation by making complex ideas and concepts accessible and meaningful to everyone.

**Using mass media to deconstruct and reconstruct discourse.** Having its own media outlets gave Puntos the kind of autonomy it needed to promote dialogue and debate and to provide a space for diverse and marginalized voices to be heard and legitimized. It allowed for the citizenry to participate at many levels in a collective reflection on diverse social issues. Having its own magazine and television and radio programs allowed Puntos to broaden the public's access to diverse points of view. It also gave Puntos a permanent space to share ideas and information without being tied to commercial considerations (Bank, 1997).

This relative autonomy also allowed Puntos to address diverse sensitive issues that go against the dominant conservative ideology generally avoided by commercial interests (e.g. abortion). Lynch (2006) described an instance where Puntos set itself apart from dominant ideologies:

In Nicaragua, where a conservative government and a Catholic hierarchy, both deeply hostile to reproductive rights, recently joined forces to attempt to deny a therapeutic abortion to a 9-year-old girl who had been raped in Costa Rica, … Puntos was producing a wildly successful, nationally distributed TV social soap called Sexto Sentido…. In its first season, Sexto Sentido broke all the rules of conventional development communication…., taking on the controversial topics of abortion, homosexuality, emergency contraception, rape, domestic violence, racism, homophobia, disability rights, substance abuse, single motherhood by choice, and youth sexuality – all the while presenting positive images of young people fully engaged as competent, capable decision-makers in every aspect of their lives. (p. 1)

As alluded to above, Puntos did not shy away from putting 'taboo' subjects into the public eye. Rather, Puntos raised these issues precisely to de-stigmatize them and
posit them within a human development, equality and human rights framework. In order to do this, the organizations paid careful attention to the language and structure of its arguments so that they were both clear and true to the organization’s values (Bank, 2006).

LGBT rights are one example of Puntos’ head on treatment of taboo issues. Right from episode one, one of the main characters in Sexto Sentido TV was a young, proud, openly gay man. Two more characters were later introduced: a lesbian character that challenged myths and stereotypes around the relationship between homosexuality, sexual abuse, and substance use, and an HIV-positive transvestite activist and former sex worker. These characters were introduced on prime time television, despite the fact that homosexuality was still illegal at that time. (The law subsequently changed in 2006.)

Needless to say, the public was receptive to these stories and characters. In fact, Puntos’ decision to introduce the issue of HIV in its last two seasons (2004 to 2005) was taken in response to numerous requests from young viewers to deal with this issue. The reason for this was explained by Bank (2001):

It is possibly because of a kind of nebulous perception of risk, of having heard about AIDS and knowing enough about it to know it's deadly, but not enough to know if it could affect them... but my hunch is that it's a kind of code for saying: we want a ‘legitimate’ way to talk about sex. Which is a code for saying: we want to talk about relationships and identity and self-esteem. Which is a code for saying: we want to TALK and feel connected, we need space to talk about our lives, all the things we experience and feel and want and fear that you're not supposed to talk about. The issue of HIV/AIDS can open up those spaces. (p. 9)

According to Rodríguez (2005), a characteristic that distinguished Puntos’ approach from other Communication for Social Change initiatives is that,

More than prescribing certain behaviors, Puntos intervenes by encouraging “a coherent critique of traditional and official discourses” (Bradshaw and Puntos de Encuentro, 2001, p.1) and a dialogue around alternative proposals. Instead of
zeroing in on a specific “good” behavior, Puntos sees its role as a facilitator of a communication space where taken-for-granted traditional practices can be questioned and where alternative cultural practices can be presented, considered, and discussed. Puntos generates a communication space where excluded or marginalized alternatives have a chance to become central, to be incorporated into the social fabric, to become “common sense.” Puntos is proud to “remove taboo subjects from ‘the closet’ onto the public agenda and mainstream consciousness” (Bradshaw and Puntos de Encuentro, 2001, p.1). Issues such as rape, homosexuality, and abortion, considered taboo in Nicaragua, have been boldly tackled by Puntos. Instead of targeting individuals with prescriptions, Puntos’ goal is to disrupt Nicaragua’s cultural fabric and everyday life world. (p. 10)

Puntos’ objective was for alternative interpretations of reality to have a chance to be part of a national conversation. Even if the majority did not agree with certain ideas, there was potentially a consolidated minority strong enough to challenge the status quo and make new perspectives and practices part of the mainstream, or at least less marginal (A. Bank, personal communication, April 8, 2012).

Brown and Singhal (1999) have noted that, even though the literature on communication initiatives highlights that when beliefs and values are homogeneous, pro-social messages are more rapidly adopted, controversy can increase the dissemination of messages through interpersonal channels. Puntos challenged societal norms by exposing their mass media audiences to alternative views and lifestyles in order to provoke discussion about these topics as a first step to bringing about changes in attitudes (Bradshaw, 2005). As Bank (2002) stated, "rather than preaching to the converted, we're trying to open up a dialogue with people who don't necessarily agree with us, but who also aren’t totally closed to what we might be proposing" (p. 3). The emphasis on dialogue distinguishes Puntos’ strategy from most other behavioral change communication initiatives (Rodríguez, 2005).
Puntos’ purpose, then, was not to create consensus around a topic, but to explore and expose different points of view, in a climate of respect and tolerance. Ana Criquillion, one of Puntos founders, explained,

Our strategy is to take our opponents’ best arguments, deconstruct them and reconstruct them again providing critics with a different perspective and providing people already sensitive to our view with strong arguments so they are better able to engage in a respectful and informed debate with others. Taking into account the arguments of the “other” is essential to achieve the kind of dialogue we promote. If you limit yourself to express your opinion, we end up talking in parallel instead of engaging in a healthy confrontation of ideas. Also, we model a democratic debate by disentangling opposing arguments in a highly respectful way, without labeling our critics’ ideas as stupid or wrong, but as ideas historically validated and reinforced by our patriarchal culture that need to be analyzed and addressed at their core…. We aim to strengthen critical thinking skills among the public. Even if some people still disagree with our position they will have improved their analytical capacity and ability for democratic debate, and that in itself is a necessary condition for social change. (personal communication, April 7, 2012)

Even though the television show, La Boletina and Puntos’ other educational materials aimed to promote critical reflection on key issues, programs like the radio show and interpersonal activities were especially effective in providing young people and women with the opportunity to assert their right to an opinion and to make decisions about matters that affect their lives. It furthermore strengthened and legitimized the voices of minorities that were not active, or visible, in the mainstream public sphere (Lacayo, 2006, p. 34). Moreover, external evaluations of Puntos have suggested that this orientation has positively influenced its audiences (Montoya, Ulloa, Antillón & Campos, 2004). By talking with peers that have different experiences and perspectives in life, people can engage in a healthy debate and exchange of information about alternative approaches and solutions to their concerns.
In addition, to using mass media to provoke a debate, Puntos made sure that concepts were open and accessible to the public, as described in the next sub-heading.

**Democratizing the debate.** Complexity Science advocates participation as being important for the information to freely flow in the system so it can evolve. However, it is not just about what information is being shared, but who is sharing it. The wider the variety of people who share ideas, the greater the opportunity for new associations to form and new patterns of meanings to propagate (Wheatley, 1999). Ample participation requires an environment where everyone feels comfortable sharing opinions and feelings. Wheatley (2005) explained,

> We don’t have to agree on an interpretation or hold identical values in order to agree on what needs to be done … but entering into a world of shared significance is only achieved by engaging in conversations. (p. 92)

To enhance participation, it is important that the core ideas and analysis that are presented become understandable to everyone. Making meaningful information accessible to everyone is one of Puntos’ principles. Each of Puntos’ mass media products is carefully designed so that people of all educational levels can understand the concepts central to the issue and the relevance with their daily life. Puntos attempts,

> To 'translate' complex ideas and analysis into simple and straightforward language, so people with little academic training can understand them. To us, it is vital that the debates that affect people's everyday lives, for instance, public policy are broadened beyond professional circles, so ‘regular’ people – folks not involved in the high-level meetings – would understand what was at stake and be able to form and express their own opinions on the various issues. (Bank, 1997, p. 3)

Kenia Sánchez, from the radio team added,

> Many organizations [working in the social change field] take for granted that women and young people know the concepts and theories used in the field by
social change organizations and leaders and that is not true in the majority of cases. It is hard for people to agree with an idea or to defend a right if they don’t even know what it means. The radio show and other Puntos programs and products aim to contribute to the debate by disentangling or unpacking complex concepts and ideas, and explaining what they mean in plain language but also in terms of people’s daily lives, what is at stake and how they can participate in the debate. This process is necessary if we want people to use the concepts appropriately, to really understand what they mean and to interiorize the ideas; otherwise, they will just reproduce an empty discourse, they will get into a theoretical debate without really affecting their attitudes and behaviors. (personal communication, April 17, 2012)

Martha Juárez pointed out, that this does not mean that the organization simplifies ideas.

Making ideas and products accessible, attractive and friendly to everyone is a fundamental principle in Puntos’ communicational work. We run iterative consultations with our audiences and allies to make sure the language used, the format, the examples, and the topics are relevant, opportune, attractive, understandable, and useful to the groups we work with. La Boletina, for instance, is written in a way to be understood by women with grade three education. But to “translate” a homogenized institutional discourse into an everyday language doesn’t mean that we just oversimplify the idea. One thing is a specialized language and codes, such as the ones used in the development field, and another one is the complexity of the ideas and concepts. We want to convey the complexity of an issue or idea in ordinary words so people can debate at the same level. (personal communication, April 6, 2012)

There are many other examples of Puntos’ “translation” of complex concepts, including the production and distribution of special pamphlets that explained the process and content of the debates from the Platform for Action from Beijing or the implications of public economic and social policies promoted by the government.

In addition, Puntos uses drama formats to make ideas and concepts accessible, to model new ways of interactions and to promote a paradigm shift. Entertainment-education (E-E) formats such as television drama series use rich multi-pronged narratives and thus represent effective means for addressing complex and interrelated issues.
Mass media narratives are engaging and thus assure popularity, emotional identification, repeat exposure to key issues and role modeling (Bank, 2002).

Puntos’ adoption of engaging television narratives is consistent with the value that Complexity Science places on story telling as a way to understand complex social problems. As Wheatley (1999) states “any process that encourages nonlinear thinking and intuition, and uses alternative forms of expression such as drama, art, stories and pictures … leads us to new ways of comprehending” (p. 143) and that new understanding of the world – or paradigm shift – is what propels the system to change.

**Implications for practice.** To conclude the discussion of this principle, in order to challenge the status quo and promote a paradigm change, mainstream ideas need to be questioned in an open and healthy debate. People from diverse background and with diverse perspectives should feel comfortable sharing opinions and feelings at the private and public level. This requires both presenting information in a clearly understandable fashion and finding ways to circulate that information among the greatest number of people possible.

Society’s shared ideas and great, unstated assumptions – what “everyone” knows – constitute a society's deepest set of beliefs about how the world works. These beliefs generate the goals, information flows, feedbacks and rules for operating and relating within and with the world. According to Meadows (1999), people who manage to intervene in systems at the level of paradigm hit a leverage point that totally transforms systems.
Kuhn (1970) explained that in order to change a paradigm,

You keep pointing at the anomalies and failures in the old paradigm, you come yourself, loudly, with assurance, from the new one, you insert people with the new paradigm in places of public visibility and power. You don't waste time with reactionaries; rather you work with active change agents and with the vast middle ground of people who are open-minded. (as cited by Meadows, 1999, p.12)

Puntos’ approach to bringing the whole system to the edge employs a systemic perspective because challenging paradigms is an essential part of social change endeavors. However, changing paradigms is a long-term and highly complex process. One must work with the beliefs, values and attitudes of individuals and the collective, on different and interlinked social issues. This is why communication strategies are relevant. Communication through a combination of dissemination of new ideas, dialogue and feedback about current and alternative mental models are the first step toward paradigm shift.

The analysis of the application of the Complexity Science principles described above, reveals potential challenges and implications of applying these principles for organizations working in the Communication for Social Change field. These challenges will be explored more fully in the next section.

**Research Question 2: What Are the Implications, for Organizations Engaged in Communication for Social Change, of Applying Complexity Science Principles and Ideas to their Work?**

The previous section responded to the first research question, illustrating four of the five Complexity Science principles that had been identified as being relevant for application to Communication for Social Change strategies and initiatives.
This section responds to the second research question by taking on the fifth identified principle of Complexity Science: “Complex adaptive systems are non-linear, paradoxical, unpredictable and sensitive to initial conditions, time and scale”.

While the last section focused its attention on the communication strategies themselves, this section will focus on issues related to the organization carrying out those strategies. In other words, this section will explore some of the technical, management and organizational culture challenges that organizations face in their attempt to design, plan, evaluate and sustain Complexity-informed endeavors.

This is important because how an organization does what it does can be just as important, if not more important, than what an organization does. And this how is often determined by the kind of organizational culture the leadership of the organization has instilled and therefore what kinds of methods it uses in its work.

Once again, the issues raised in this section are illustrated with examples from Puntos de Encuentro’s experience.

As previously explained, Puntos’ founders and leaders were not explicitly aware of Complexity Science principles during its first 15 years of existence. Indeed, it is only in the last seven or so years that they became aware of the field of Complexity Science. Yet the intuition of their founders and leaders about the complex nature of social change led them to instinctively ground their thinking and practice in these principles.

The analysis of the issues discussed in this section, as seen through the example of Puntos as an organization, demonstrates that it is perhaps precisely the organizational culture instilled by Puntos’ founders and leaders that is a key element in making Puntos’
work so innovative and effective. That is, although there are certainly interesting innovations in many of Puntos’ main communication strategy components and the way they are put together, it is what goes on behind the scenes – in the organization itself – that results in the strategy being effective.

At the same time, Puntos has faced many challenges in trying to implement its work because many of their practices challenge dominant paradigms in development work. As the findings of the research will show, some of these challenges are easier to overcome than others.

While this case study explores only this one experience in depth, the analysis suggests there are valuable lessons to be learned that can be of use to other organizations.

This section is organized according to a series issues raised by the Complexity Science principles that have been analyzed using Puntos’ experience as a case study: (a) Planning under uncertainty, (b) Issues of impact evaluation, and (c) Dealing with paradoxes. The chapter closes with a more general reflection on the organizational culture that sustained Puntos’ approach.

**Planning under uncertainty.** Scholars and practitioners of communication and social change, especially those who have muddied their feet on the ground, tend to agree that social change is often a non-linear, uncertain, unpredictable and long-term process, embodying multiple levels of complexity and mutual causalities (Alfaro, 2006; Bradshaw et al., 2006; Deane, 2001; Deane & Grey-Felder, 1999; Papa et al., 2006; Rodríguez, 2005; Lacayo, Obregón & Singhal, 2008).
Despite the fact that there is an increasing awareness in the field of the need for new approaches to planning and evaluating social change initiatives, the primary approach in the development field continues to be lineal assumptions about the social change process that require detailed planning and centralized control of interventions, assuming predictability of outcomes with success being contingent on the ability to directly attribute outcomes to the intervention (Bar-Yam, 2004a).

It is important to contemplate what is it about the nature of the communication and social change enterprise that continues to perpetuate such misguided assumptions, despite voices from the field calling out for change (Lacayo, Obregón & Singhal, 2008).

One obvious answer has to do with funding. Despite the fact that the current trend in project planning and measurement is now leaning away from the log frame approach, it is still “a ubiquitous, often obligatory planning mechanism used by an overwhelming majority of international development agents—government and non-governmental organizations alike” (Pomerantz, 2011, The Logical Framework Approach to International Development section, para. 2).

Indeed, because, as Pomerantz (2011, The Logical Framework Approach to International Development section, para. 10) has pointed out, the log frame is “typically a mandatory component of a contractual obligation between an aid agency and a partnering organization”, in order to receive funding, most social change organizations – including communication organizations – still continue to frame their strategies in these cause-effect, input-output-outcome-impact terms even when they are aware that this a mistaken and even counterproductive approach.
Gelatt (1991) suggested that this paradox, that characterizes the field of Development and Communication for Social Change, is due to the *paradigm paralysis* faced by most social change agents in the field, in which “a way of seeing (a paradigm) is also a way of not seeing. Paradigm paralysis is when we become incapable of seeing things that are no longer the way they used to be” (as quoted by Haines et al., 2005, p. 40).

According to Patton (2011), “complex environments for social interventions and innovations are those in which what to do to solve problems is uncertain and key stakeholders are in conflict about how to proceed” (p. 1). This is an accurate description of the context in which most social change organizations work, especially because funders themselves are key stakeholders for these interventions. Most social change organizations try to address and solve problems that have no single nor simple solution, many paths are available, some already tried and some still to explore, but in any case, there is no general agreement nor certainty about what is the right approach and the only way to find out is by exploring different options.

In this regard, Westley et al. (2007) stated that when it comes to social change issues, especially those that imply long term, complex processes, the best one can aspire for is “getting to maybe” (i.e. reaching a point of more possibility of achieve the desired change). This is because in complex adaptive systems time frames matter and the longer something takes, the less predictable is the outcome. Fowler (2008) agreed,

> Longer time frames – such as those involved in political and social changes, shifts in social institutions and inter-generational changes – require a move from relying on certainties in defining desired change to estimating probabilities. (p. 3)
Thus, complexity theorists recognize the futility of planning everything in detail in a constantly changing environment and instead propose flexibility and multiplicity.

You can never know exactly what will happen until you do it. So, allowing the flexibility of multiple approaches is a very reasonable thing to do…. When we do find ourselves in situations far from certainty and agreement, the management advice contained in this [complexity] principle is to quit agonizing over it, quit trying to analyze it to certainty. Try several small experiments, reflect carefully on what happens and gradually shift time and attention toward those things that seem to be working the best (that is, let direction arise). These multiple actions at the fringes also serve the purpose of providing us with additional insights about the larger systems within which every system is inevitably buried. (Plexus, 1998b, p. 9)

A flexible, multi-pronged and step-by-step approach to planning is especially useful for social change organizations whose mission is to promote changes in the environment and in the pattern of relationships between agents, rather than producing pre-determined outcomes. It is also useful when an organization enters into uncharted territory (that is, where there are no previous experiences that can serve as points of reference in guiding the initiative.

Puntos is a case in point. According to Amy Bank (personal communication, March 4, 2013), when Puntos began its work in Nicaragua in the early 1990s, there were no other communications initiatives similar to La Boletina or the youth-talk radio program that were innovative in their format, dissemination mechanisms, language and willingness to put “taboo” topics into the public realm. The organization charted new territory in this respect. The same was true in the mid-90s, when it began their youth leadership camp and when it proposed the idea for what would become Sexto Sentido TV. At that time, neither Puntos nor their funders had ever heard of the field of Entertainment-Education. In 2000, when Puntos moved from a series of stand-alone
communication and training activities to their “Somos Diferentes, Somos Iguales” multi-media/multi-method strategy, no one else in Central America had developed an integrated model combining mass media components with interpersonal capacity building and community mobilization. Clearly, in order for these initiatives to get off the ground, Puntos was successful in convincing several forwarding-thinking funders to “take a chance” on innovative ideas that did not yet have a proven track record.

Despite those successes, Puntos was not exempt from the paradox of trying to foment and facilitate complex processes in a world that demands results, efficiency and rapid attributable impact. Despite early successes, Puntos was obliged to “prove” their results, efficiency and attributable impact in linear terms in order to continue receiving funds (A. Bank, personal communication, March 4, 2013). (This point will be discussed more fully later in this chapter.)

As prior studies of Puntos have revealed, as a whole, Puntos’ management has a clear understanding of social change as a complex process and its collective dream is a Complexity approach to social change, yet its operative planning follows a “complicated” linear, step-by-step approach, that Puntos feels under pressure to carry out to satisfy, among other things, donors’ requirements (Lacayo, 2006). Vilma Castillo, member of the board of directors, explained,

While we make an effort to plan our strategies in accordance to our notion of social change as a complex process, most of our counterparts and some of our funders do not necessarily follow the same line of thinking and may believe in cause-effect strategies, measurable results and different follow up activities to achieve their own agenda and expectations. We have conceptual differences that shape our plans, organizational language and strategic thinking, but we are forced to negotiate them in order to collaborate…. The organizational and personal costs of keeping up with and reconciling internal and external expectations are high.
We always feel like we are swimming against the current. Trying to fulfill our vision and goals while responding to the demands of donors and partners, ends up being very exhausting. (personal communication, April 6, 2012)

Thus, in planning its youth leadership camps, the organization has had to somehow translate goals like “deconstructing the notion of oppression”, “creating new ways to relate with each other”, “bringing people to the edge” and “letting new directions emerge” into boxes that describe what and how many activities it would implement, how many participants would attend, how participants would be contacted, what and how many materials would be distributed, how much would it cost, what were the expected outcomes, and how would they be measured. The cause and effect relationship implicit in the log frame is representative of Newtonian thinking (Lacayo, 2006).

As one of Puntos’ members explained,

Our challenge is to translate those complex ideals into log frames, operational plans, activities, outcomes, and indicators, which means reconciling our notion of social change as messy, unpredictable, and uncontrollable with the short-term, cause-effect based schemata that can frame results as quantifiable and measurable…. Even though we know better, we keep making the mistake of conferring too much prophetic capacity on the planning process, especially with the five-year projects… and we make the same mistake over and over again. (E. Flores, personal communication, August 10, 2006)

As an organization, Puntos has often felt trapped in a detailed plan defined several years prior that no longer corresponds to the current context. It has felt accountable for its plans and obliged to execute pre-determined activities even when that meant neglecting its own intuition.

On an annual basis, Puntos is generally able to achieve initial expectations and execute a number of extra activities and events that were not in the original plans. As Vanessa Cortez explained,
Some great ideas have emerged from our ongoing exchange and coordination with other people and organizations…. If we had all that information from the beginning we would be able to include it in our plans, but we cannot afford to lose an opportunity [to improve our work] just because we did not plan for it … and that is what this [social change] is all about anyway. (personal communication, August 29, 2006)

While donors and partners have usually applauded this result, and it seems logical to celebrate Puntos’ flexibility and ability to engage in additional activities, at the end of each cycle, Puntos’ staff frequently feel exhausted and acutely aware that some activities in the plan ended up being more of a distraction than a way to achieve their goals.

The solution is not simply to plan in more detail or more accurately. It is not about setting less ambitious goals and objectives (when there is usually there is enough time and resources in the plan and the budget to implement the proposed activities) nor is it about planning in a more “loose” manner in order to leave room for what might arise along the way. The planning itself is the problem.

This is not to say that social change organizations must not plan. Instead, it means they should change the way they plan. As Glouberman and Zimmerman (2002) have explained,

Interventions in complex adaptive systems require careful consideration and planning, but of a different kind than in a mechanic systems. It is more important to understand local conditions and be aware of the uncertainty and feedback that accompanies any intervention. (p. 12)

Thus, the issue is not about bulldozing detailed, rational, standardized, repeatable, controlled and measurable plans. Instead, it is about finding an appropriate mix for a given situation and using the right tool for the right kind of problem.
Where the world is certain and there is a high level of agreement among agents and a high level of certainty about the outcomes, traditional planning is appropriate – and even advisable – so as to not waste time and resources on “re-inventing the wheel.” “In the same way that you would not use a hammer to tighten a screw, you should not use complex systems techniques and strategies to solve simple/linear problems” (Eoyang, 1997, p. 7).

However, situations characterized by uncertainty and divergent views on how to proceed, a management process known as “swarmware” is required. Swarmware explores new possibilities through experimentation, trials, autonomy, freedom, intuition and working at the edge of knowledge and experience. It allows for adaptability, flexibility and openness to new learning. Swarmware is also helpful in situations where the old “clockware” planning system and processes are no longer adequate for accomplishing the purpose. For example, in situations where the purpose has changed or where creativity is desirable for its own sake (Plexus, 1998b).

Another effective approach to planning under uncertainty is to reframe the problem at hand. A good example of this situation is the case of Brazilian’s approach to the HIV/AIDS crisis.

While the World Bank and the world at large have approached the epidemic as a complicated problem. A complicated approach assumes that the resources available in the system are fixed and predetermined. In the case of Brazil, the income per capita is $5,000 and the cost of anti-retroviral treatment per person is $12,000, so the logic conclusion was that the treatment of the infected was not affordable and the only solution was to focus the existing resources in prevention efforts. Brazil challenged that conclusion and implemented one of the most efficient and effective strategies known so far. The key of their success was a change in perspective and an understanding of the resources available as those that already existed in the system PLUS those that could be perceived and/or
created in the interactions between Brazil social capital. The question was then changed. It was not any more a matter of who will receive help, but how will help be provided to everyone. Few simple rules were established, and a flood of creativity and self-organizing processes were freed across Brazil. More than 600 NGOS, hospitals, generic drug companies, governments, churches and community leaders participate in this process. All played a role. All were followers and leaders at turns. This strategy was not a top-down, but it is was not entirely bottom-up neither. Scale and complexity trade off again: the level of freedom required by the multiple initiatives happening in the ground, force the system to let go control and lead the whole process by establishing few simple rules. (Westley et al., 2007, p. 135)

The example from Brazil reflects the general approach to planning proposed by Complexity Science:

The best way to plan is by establishing minimum specifications and a general sense of direction, that is, describe the mission the organization is pursuing and a few basic principles on how the organization should get there. The organizational leadership should then allow appropriate autonomy for individuals to self-organize, adapting as time goes by to a continually changing context. (Plexus Institute, 1998b, p. 3)

This implies that practitioners need to become more aware of how complex systems function and how planning occurs in the context of uncertainty. Yet, a new vision among practitioners about how societies work and change is not enough. A new approach can only be implemented if the whole development community – practitioners, donors and scholars – gets on board.

Puntos is aware of the significant correlation between an organization’s capacity to innovate – that is, its ability to create initiatives and to adapt to changes in the environment – and the level of trust and general institutional support the organization receives from its donors. As, Ana Criquillion, founder of Puntos, described,

Until the year 2000, the relationship between Puntos and its donors was based on a global plan, a general agreement about our common goals and a set of minimum specifications to achieve them. While we had strong, well-thought out strategies,
our plans were not overly detailed and that gave us a lot of room to adapt our strategies and tactics in response to what we were observing in the environment and to the feedback we received from our allies and monitoring systems. Those were the years we were the most innovative. We started designing Somos Diferentes, Somos Iguales and created other successful programs. We strengthened our alliances with other organizations, as we were able to promote and participate in collective, self-organized, initiatives because we had the resources and the freedom to do so (as long as we didn’t deviate too much from our original goals and mission). Most importantly, we had the resources [time] to theorize and reflect collectively about our vision, mission and the changes in the environment. After that, the complexity of the funding system of Somos Diferentes, Somos Iguales and the perception of many of Puntos’ donors that we were a ‘well established’ organization, dramatically changed the conditions under which Puntos operated. We entered a phase in which we were required to plan every detail, every breath, to provide pre-defined and ‘scientifically proven’ indicators of success, to be accountable for every tiny change in the approved plan… This not only changed the way we work, but it also provoked significant changes in our organizational culture. Our innovation and entrepreneurship capacity were weakened. We still continued to create new things, new ways… but we have lost the time, the resources, the flexibility and the energy we used to have to do it and we had to find some cracks in the box in order to be creative… We used to tell our teams “this is the vision and the goals, these are the minimum specifications, find a way to do it and then tell us about it.”… We couldn’t do that anymore and it doesn’t surprise me that the major institutional crises Puntos has suffered correspond to periods when we worked within that planning framework…. This is not the responsibility of the donor community alone, it is also ours. Most NGOs still work within a corporate model that is completely obsolete and that even the corporate sector is moving away from! (personal communication, April 7, 2012)

A good example of the benefits of donors’ trust and freedom is the creation of Sexto Sentido TV. As Amy Bank explained,

We were determined to achieve “the impossible”, as most people told us back then: We wanted to create not only the first ever-produced Nicaraguan telenovela, but also one that was created and produced by an NGO and that addressed social issues, many of them taboo. At that time, Nicaragua didn’t have a television industry, an advertising industry, actor or scriptwriter studio or even a television studio where to shoot the show. We had little to no experience producing television beside the 30 seconds spots for our social campaigns. But some donors believed in us, in our passion, determination and innovative capacity and they provided us with a seed funds and gave us freedom to experiment. We knocked on doors, built in-house capacities, did and re-did the scripts, tested the pilot,
involved a lot of people in the process and ended up with a product that exceeded our expectations. Even if we weren’t sure how to get there, we knew where we wanted to go and why we wanted to do it, it was then a matter of finding our way. Sexto Sentido TV became Puntos’ most successful product, both nationally and internationally and won several awards.... “The impossible” can often be achieved with a clear vision and the right amount of freedom, support and creativity. (personal communication, April 8, 2012)

These reflections demonstrate how the level of constraint and the demands established by highly detailed and highly controlled plans are detrimental to the quality and patterns of relationships essential that are required for whole-system change and how these planning frameworks are perceived to have limited Puntos’ ability to innovate.

In summary, Complexity Science suggests that social change initiatives allow for flexibility and multiplicity, an approach that clashes with current planning models and expectations. A new approach to planning – referred previously as swarmware – is required that allows for experimentation and adaptability. Social change agents (organizations and their staff) should seek to establish directions and principles, but then leave room for innovation and creativity. They should get together routinely and use a shared vision about the complex nature of social change to agree on the main strategies (or minimum specifications) for achieving common goals. Then, everyone must trust the process and plan its activities and indicators accordingly. Social change organizations will only be able to do this, however, if their funders adopt similar perspectives and work with social change organizations in ways that allow for more fluid programming. This requires overcoming a fear of minimum expectations.

**Issues of impact evaluation.** Impact evaluations have always been a challenge for social change organizations. The design and implementation of effective monitoring
and evaluation processes is easier said than done. Lack of resources and internal capacities, pressure from donors to speak to specific evaluation criteria and lack of agreement on appropriate impact indicators are only a few of the many concerns that organizations have when it comes to monitoring and evaluation (Lacayo & Singhal, 2008). Furthermore, there is no universal agreement on what should be measured and how to measure it.

Many social change organizations believe that defining indicators of change in individual attitudes and behavior is important but is not enough. We need new methodologies and indicators that could capture the complexity of social change processes. (Lacayo & Singhal, 2008, p. 28)

Despite this, most evaluation models employ rational and linear assumptions. Cabrera and Trochim (2006), analyzed some of the most popular (and even “advanced”) evaluation models and noted,

There is a large degree of agreement between these models. It is clear that “causality” is a central idea—that some interventions, action, object, or activity (X) leads to some outcome (Y). It is also clear that there are often interim steps (i.e., “short or midterm outcomes”, “goals”, or “sub-goals”) that occur between X and Y. Also clear among these models, is the desire to create “causal chains” or “through lines” that are rational and logical. There are two important ideas within this notion: 1) that there is a “public logic” to the linkages we make and 2) that there is a clear path that links one thing to the next. That is, there are no “leaps” of logic in which the link between an activity and an outcome requires some unspecified miraculous intervention (p. 5).

Figure 3 represents the irony of trying to fit complex processes into linear, logical sequences.
In this respect, Sara Bradshaw, a professor at Middlesex University, U.K. and a long-time collaborator of Puntos, stated,

> When academics talk about impact evaluation in traditional terms, we [the academics] assume that we already know what is going to happen and how, so what we need is to demonstrate that we were right in an objective manner. (personal communication, September 4, 2006)

Thus, many working in the domain of social innovation have experienced evaluation methods that seem entirely unrelated to the nature of their enterprise, if only due to the fact that the methods either deny the complexity of reality or pretend to control it by redefining the complex as simple or by creating clear, specific goals, tasks and indicators that allow people to focus on the “manageable” so they can “cut through the noise and find the essence” (Patton, 2011, p. 6).
In some cases, social change organizations design their impact evaluation during the planning process alongside strategies, activities, outcomes and indicators, and thus reflect the same linear thinking used to develop the intervention. Detailing in advance how one is going to measure the expected outcomes, not only implies that complex problems and issues will act exactly as predicted and that inputs will result in the expected outcomes in the expected time frame, but also predisposes the organization to find what it seeks within a narrow – and often inaccurate – framework, while other meaningful information and impacts may be overlooked and remain undocumented.

However, social change is far from linear and not suited to predetermined evaluation frameworks. Most traditional evaluation methods were not designed to capture data about the complex and unpredictable performance of societies. As Patton (2011) stated,

Social innovators don’t follow a linear pathway of change; there are ups and downs, roller-coaster rides along cascades of dynamic interactions, unexpected and anticipated divergences, tipping points and critical mass momentum shifts…. Traditional evaluation approaches are not well suited for such turbulence. (p. 5)

It is no surprise then that Puntos has faced many challenges in its attempts to evaluate the impact of its communication strategy, and has found itself caught between using approaches that serve its needs and using approaches that give it greater authority among donors and experts.

For instance, the first phase of Somos Diferente, Somos Iguales was evaluated on the basis of data collected through a quiz similar to those found in magazines aimed at teenage girls, which use hypothetical situations (e.g. What/how would you do/think/react
if…) and multiple choice responses. This approach allowed Puntos to explore issues not usually addressed in survey research. As Bank (2002) explained,

The most exciting part has been to inventory and analyze the enormous variety of individual and collective change processes that have been sparked by this project, things that were not included in the original indicators we had developed, and that we definitely want to follow up on, things that have to do with social cohesion, leadership, and the like. (p. 4)

Indeed, the results informed the design of the second phase. For instance, the results led to sexual abuse being incorporated into the Sexto Sentido TV storyline.

However, the approach was polemic among experts. Findings were criticized for lack of scientific rigor on the one hand and for lack of depth on the other (Lacayo, 2006). Puntos came under pressure to conform to international standards for indicators and measurement in order to be able to participate in global forums with authority.

The second impact evaluation for Somos Diferente, Somos Iguales combined both quantitative and qualitative methods. The quantitative component took four years to implement and was led by international experts in research and evaluation methods and conformed to international standards. This approach gave Puntos greater authority, but was also a source of frustration. As Irela Solórzano, the member of Puntos in charge of managing the evaluation process, explained,

We needed to gain external legitimacy with our work, but we also wanted to have an opinion and to participate in the design [of the evaluation] to guarantee that it would be coherent with our vision and mission…. Designing and implementing the second evaluation according to the academic and international standards gave us authority to talk about the evaluation of social change initiatives, it gave us a ‘seat’ in the international table where those issues and criteria are being discussed and decided, but it has also allowed us to decide what approaches work better for us, what things we want to take away and which ones we would rather not repeat and [instead] try something else. “Cadillac-type of evaluations” [external, rigorous mix-method and multi-year evaluations], such as the longitudinal one we
undertook, present several challenges when trying to translate the findings into applicable feedback to inform actions and to improve the performance, activities and products of our organization in a timely and meaningful way. (personal communication, April 6, 2012)

In response, Puntos developed a complex monitoring system that combines quantitative and qualitative methods and allows for the participation of Puntos’ team members and key stakeholders (e.g. individual viewers and listeners and the local organizations Puntos works with).

Puntos’ evaluations, as a process that accompanies institutional actions, are not limited to the verification of changes and the establishment of causal relationships between them. The comprehension of impact is complemented and enriched with other forms of assessments such as formative evaluations, evaluation of managerial processes, short-term outcome assessments and developmental monitoring and evaluation, meaning a monitoring systems that serves as a double-loop feedback between planning, action and evaluation. (Abaunza & Solórzano, 2006, p. 3)

For instance, Vanessa Cortez (personal communication, April 16, 2012) explained that La Boletina has at least three feedback mechanisms that inform the production process of each issue. First, a Consultative Council composed of a rotating group of leaders from the Nicaraguan women’s movement (to guarantee a diversity of voices and perspectives) exists to help the team define themes and topics for articles and positions on specific topics. Second, an Editorial Council brings together a smaller mixed group of leaders and experts who use the input from the Consultative Council and readers’ letters and calls to define content for each magazine issue. Third, Puntos organizes an annual meeting with readers and distributors to discuss the magazine’s format, content and language.
Puntos has also sought to create similar feedback loops with its other communication products. For example, the television drama series and the multiple educational materials produced by Puntos have been consulted with more than 2,000 individuals and organizations in Central America during the pre-production, testing and post-broadcasting/distribution phases (A. Bank, personal communication, April 4, 2012). This reinforces the idea, discussed under principle 1, that feedback loops are not only good for evaluating and improving performance and products, but also a process that in and of itself implies interactions and therefore change in the system.

Puntos’ experience with evaluation unveils several lessons. First, monitoring and evaluation systems should be designed in accordance with the organization’s interests and needs and vision and theory of change, rather than solely based on accountability issues.

It is not that being accountable is not important or necessary, it is; but they should not be driven by it exclusively. Monitoring and evaluation should always prioritize learning [about why social change happens and how] and evolution [of the social change strategies] over the need for attribution of merit or blame. (I. Solórzano, personal communication, April 6, 2012)

Second, organizations need to think more carefully about the link between planning and evaluation, based on an understanding that the quality of the planning process affects the quality of the evaluation design.

Everybody in the organization should know and understand what the organization’s general goals are, so they can see the beyond their own program or project and adapt their actions to the general goal. When everybody is on board about what we want to achieve and share the same basic guidelines, we can adjust our programs to the changes in the environment without losing perspective…. If we know where we are going, it matters less how we get there, either through workshops, camps or magazines. We are all clear of the changes we want to achieve and the principles that guide our actions, and that allows us some level of
flexibility to adjust our plans to the changing context and the opportunities/challenges emerging from the interactions we have with our partners and audiences. (I. Solórzano, personal communication, April 6, 2012)

This leads to two additional lessons. On the one hand, monitoring and evaluation systems need to inform programmatic action in a timely and effective manner, which requires both an ongoing and multi-method system of feedback and evaluation (Abaunza & Solórzano, 2006) and feedback mechanisms that involved all team members.

Sometimes a team gets information that affects the work of another program. If everybody knows what the purpose is and everybody has developed some basic evaluation capacities, we can improve our programs and performance as we go instead of waiting for a follow-up evaluation to tell us wrong. This is not about being “right” or “wrong” it is about finding what works best to achieve our goals. We all need to pay attention to what is happening; both to planning and to unexpected indicators. (I. Solórzano, personal communication, April 6, 2012)

On the other hand, organizations need to engage in constant revision and improvement of the evaluation system so it can keep up with the changes in the organization, the strategy and the context in which the organization works (Abaunza & Solórzano, 2006).

Thus, evaluation should be about “connecting the dots” between things that work and things that do not work and thus provide organizations and practitioners a full understanding of the system at hand and the opportunity to respond appropriately in a more timely fashion (Fowler, 2008). In other words, evaluations should really be about learning.

Complexity thinkers agree that new methods for impact evaluation are needed in order to assess performance in a complex system effectively. Systemic evaluations not only observe intended effects and pathways, but also seek to document the entire range of
effects triggered by a program, irrespective of whether or not these impacts meet initial intentions. Exceptions, discontinuities, unexpected results and side effects are valuable sources of information on the program being evaluated that can help to improve implementation. Furthermore, applying a more systemic approach to evaluations has the ability to provide a better understanding, not only of what happened, but how and why it happened, and thus provide agents with more information on how the system works and how it can be influenced.

In addition to the multiple challenges analyzed in this section, there is clearly a significant need to develop and test new methodologies, indicators and instruments for evaluating social change interventions. Equally important will be the dissemination of these new tools – and the thinking behind them – to like-minded organizations, and an advocacy campaign with researchers, evaluators, funders, development agencies, and other key stakeholders to begin to accept these “alternate” frameworks for both planning and evaluation. Given the persistent resistance in the development sector to give up linear frameworks despite the mounting evidence of their inadequacy, this will probably require a long, and complex, process.

This sub-section has dealt with issues of impact evaluation from the perspective of Complexity Science. The next sub-section addresses common paradoxes that arise in Complexity-based communication endeavors.

**Dealing with paradoxes.** As stated in Chapter 2, complex adaptive systems are full of paradoxes, but rather than hindrances, these paradoxes are seen as generative aspects of a system. In other words, Complexity Science suggests that solutions can be
found exactly around these points of tension. Thus, instead of applying either/or thinking, one must see contradictions as both/and situations (Plexus Institute, 1998b).

Several paradoxes, common to the social change field, can be highlighted in Puntos experience with its Communication for Social Change strategy, namely, dissemination versus dialogue, competition versus cooperation, directing and controlling versus providing a framework, and continuous innovation versus stability. My personal experience is that these paradoxes are common topics of discussion within social movements both in Nicaragua and internationally.

Each of these paradoxes will be explored in the following sub-sections, through the lens of Puntos approach to dealing with them. The discussion shows how both sides of these apparent contradictions can be interdependent and complementary (i.e. 'both-and' rather than 'either-or').

**Paradox 1: Dissemination versus dialogue.** In spite of the dichotomist discourse in the Communication for Social Change field about dissemination and dialogue, Singhal (2005) has argued that dissemination and dialogue are dialectically intertwined, and the tension between them is a vital ingredient in organizing for social change.

Dissemination and dialogue are not separable, and one is not holier than the other…. The binary discussion of dissemination versus dialogue is neither useful nor productive and that, for social change to occur, both dissemination and dialogue must dynamically co-exist, each shaping the other. (Singhal, 2005, p. 2)

While dissemination is an intentional process of information transmission from one source to one or many individuals it does not mean that dissemination is confined to the realm of mass media. According to Papa et al. (2006), since dissemination involves telling, interpersonal messages also involve dissemination of some kind. Similarly, an
interpersonal exchange where two or more people are engaged in an apparent dialogue, does not guarantee that everybody’s voice is being heard. Rather, dialogue involves mutuality and reciprocity in information exchange, which means that it is not only about the information exchanged but also about the relationship established between the parts. “Dialogue, by nature, is recurring and iterative. Through dialogue, human relationships are co-created, co-regulated and co-modified. That is, something new is created in the interaction” (Papa et al., 2006, p. 159).

Thus, dissemination and dialogue are dialectically intertwined and the tension between them is a vital ingredient in organizing for social change. Mass media are valued because they can provide access to information otherwise not currently available to the system (community or organization) and thus enrich the transformative dialogue among agents of a system.

Turning to the case study, Puntos’ mass media formats serve an important dissemination purpose, which allow the organization to raise awareness of power inequalities and actively question societal norms (Tufte, 2005). Puntos has stated that for a healthy dialogue to take place, people must have access to all kinds of information.

We aim to challenge cultural and social norms; we want people to question the status quo and to engage in a respectful debate about their reality, their beliefs, attitudes and behaviors so they can overcome oppressive relationships. This implies giving people access to alternative ideas and strong, valid arguments they can use in private and public discussions. This is where dissemination has an important role to play; everybody should have access to the same information so they can talk about those issues and take informed decisions; but oppressive relationships would not change based on information, they have to be de-constructed and re-constructed through dialogue and experience. (A. Bank, personal communication, April 4, 2012)
But Puntos has also used mass media to promote dialogue. In addition to promoting dialogue and listener participation on the radio show both the radio and the television shows “model” the kind of dialogue Puntos want to promote among the audience – a dialogue that does not disqualify the “other” but is instead based on ideas and arguments and is respectful, reciprocal and assertive.

Puntos has taken dialogue one step further in that the construction of their mass media content is created collectively through dialogue with diverse individuals and organizations. In this way, content production has brought together a diversity of people and ideas that otherwise would have had little or no opportunity to engage in a debate on these issues.

Puntos’ experience shows that dissemination and dialogue are not only compatible and complementary, but also interlinked in such a way that they are essential to achieving the organization’s goals.

**Paradox 2: Competition versus cooperation.** Competition and cooperation are intrinsic to complex systems. For complex systems to survive and evolve, their agents have to both compete and cooperate with each other. These dynamics are not mutually exclusive. Natural and biological systems display both cooperation and competition, as do corporate, business and sociological systems.

The growth of Visa International is one example of the combination of competition and cooperation in the corporate sector.

The corporation’s growth averages around 20 percent annually; it serves around a half-billion clients in more than 200 countries; sales volume is now passing $1 trillion. In the massive, sprawling Visa system, the cooperation-competition paradox is a fundamental part of the structure. Fierce competition occurs among
member institutions and banks that issue Visa cards, set prices and develop services … all while going after each other’s customers. But these institutions must also cooperate: for the system to work, merchants and vendors must be able to accept any Visa card anywhere in the world, regardless of who issued the card. This mixture of cooperation and competition has allowed the system to grow globally, seemingly immune to traditional constraints of language, culture, currencies, politics or legal codes. (Zimmerman, Lindberg & Plsek, 1998, as cited in Plexus, 1998b, p. 13)

Unsurprisingly, Puntos competes with other organizations for scarce resources, not only funds, but also time, staff and visibility. However, nationally and regionally, Puntos is well known for its generosity and supportive attitude towards its peers (Portocarrero et al., 2012; Rivera, 2000). The head of Puntos explained,

Of course we are competitive, very competitive, we wanted to be the best; but we also always share what we know and what we find out. That never was a conflict for us. Actually, it was part of our competitiveness. Let’s see who shares more! Yet we compete within our principles. We never compete at the expense of others. To compete means to be the best at what we do but not because we beat others, not because we stole opportunities or resources from them, or because we denigrate or make their contribution invisible; it means competing fairly. We believe we should all compete on the same terms, with the same conditions and the same rights. We believe in sharing the information we have about funding sources, about social change theories, about good practices and what worked for us. Our competition was always against ourselves. Because we are kind of perfectionists, our measure of success is based on our own expectations and standards. We compete so we become more innovative and effective. That’s the whole point. To keep improving what you do. (A. Criquillion, personal communication, April 7, 2012)

Another informant added,

We apply to the same grants that other organizations apply for and we do the best we can to get them [the grants] because we need them for our work. But we have also made alliances with “our competition” when we see that we can build a win-win relationship. That is always a smart strategy. Fighting alone in a context where funds are getting fewer and fewer, when donors are shifting their political agenda away from women’s rights, it would be suicidal for the whole movement. We need to come up with a collective strategy so we win the big picture. That is why we also support collective initiatives and why part of our strategy is to strength the capacities of women’s organizations; it is part of our mission to
invest in movement building and strength, but it also a matter of survival as a [feminist, non-profit] sector. If we don’t create alliances with each other, then none of us will be able to achieve the social changes we want. (M. Juárez, personal communication, April 12, 2012)

Thus, Puntos’ willingness to collaborate comes from an intuitive understanding that competition and cooperation are not mutually exclusive and the awareness, as stated earlier in this chapter, that strong alliances are essential for the accomplishment of its organizational goals. This perspective is in accord with the principles of Complexity Science.

**Paradox 3: Directing and controlling versus providing a framework.** As previously stated, Puntos has continually struggled with the need to comply with and be accountable for predefined and fixed plans and an impulse to follow its intuition and adjust its strategies on the go. Sometimes, Puntos decides to go with its intuition, in spite of existing plans.

Since we understand social change as complex process that can only be achieved collectively, we try to design the initiatives of the strategy in that way, inviting other organizations to form alliances and to jointly define the priorities and construct the content and activities. However, we need to have a plan in place, a plan already approved by the donors that give us support, so our margin for improvisation and adjustment to other organizations priorities, visions and suggestions get restricted by those pre-approved plans…. We try to make as many adjustments as we can to fit a collective vision, but it is not always possible if we also want to comply with our previous commitments. In most cases we do it anyway and then try to justify the changes with the donors, even if that complicates things for us, we do it because we think it is the right thing to do, but it also happens that we miss a lot of good opportunities just because we are unable to make them fit into our plans or justify the change… This is especially the case when the joint initiatives proposed are long term ones – as social change is - and they get out of the timeframe defined by our donors which usually is 3 to 5 years. (S. Vega, personal communication, April 16, 2012)
Another set of issues related to this paradox involves the tension between participation and efficiency. Here, “efficiency” is used to denote the capacity to achieve goals through the stated mechanisms and established timeframe and is considered different from “effectiveness.”

While Puntos believes that participation is vital to be effective, it is also conscious of the repercussions of this approach in terms of efficiency. Everybody at Puntos agrees that involving other people in the debate and the decision-making process has multiple benefits. Puntos firmly believes that participatory processes improve the quality of the process and the products and increases their impact. However, participation implies time and resources that Puntos cannot always afford.

One of the disadvantages of participation is that everything takes longer than what we would like or planned for not only because just to hear everyone’s voice takes time, but also because reaching consensus, especially around complex issues, is a challenge that takes a lot of time and iterations… and we don’t always have that much time. We need to comply with our plans within a timeframe and sometimes that forces us to reduce the level of participation we would like to have, and thus impacts the quality of our relationships and products, for the sake of accountability. (E. Flores, personal communication, April 10, 2012)

A third set of tensions related to this paradox has to do with the type of interactions Puntos wants to foment and promote: two-way, reciprocal, based on negotiation, respect, and mutual interests.

We think organizations are subjects not objects of the change process and they, as are we, are constantly exposed to inputs that will trigger crises and present opportunities for change. Everyone, individually and collectively, has the responsibility to figure out ways out to overcome those challenges and move forward. (K. Bojorge, personal communication, April 12, 2012)

The input-outcome planning frameworks carry expectations that one can direct and control outcomes and that the organization can achieve what it said it will do. Thus,
Puntos may feel compelled to step in and get control over processes and the outcomes to achieve pre-determined outcomes. However, this task not only surpasses Puntos’ capacities, but is incongruent with its vision and counterproductive to its overall social change goals. Stepping in is inconsistent with its vision and the processes undertaken with partners.

We continuously face two problems with the kind of processes we trigger. The first one is that, with the youth camps for instance, we cannot predict the specific outcomes in advance. We can predict and we plan for general outcomes such as awareness, attitude and behavioral change toward certain issues, alliances building, etc. but at the individual level, the experience can detonate other processes that are out of our control. (K. Bojorge, personal communication, April 12, 2012)

Puntos is aware that attempting to control every process and outcome can be counterproductive, since centralized control hinders innovation and self-organization and thus, sustainability. As an agent within a system that co-evolves alongside its peers, controlling those interactions and the patterns that spontaneously emerge from them is both unadvisable and impossible. Furthermore, it has been suggested that certain problems may be better addressed by facilitating self-reorganization by adaptive agents and that for actors to self-organize, they must have the freedom to act and get feedback on their actions (Ramalingam & Jones, 2008).

In summary, social change organizations carry out internal and external activities. Internal activities, like the production of public education materials, can generally be accomplished in adherence with pre-determined rules (e.g. timelines). However, external activities involve working with other subjects – organizations and entities that also have agency – and not objects. Engagement between social change agents, hopefully, supports
this agency, meaning that the quality of the process should be just as, if not more, important than the outcome. However, to fully engage in a process, the instigating organization requires a certain level of flexibility to let the process develop naturally. A guiding framework is much more suited to this context than strict, pre-determined rules. Most often, however, organizations are not only faced with negotiating processes with other organizations for the achievement of goals, but also negotiating realistic goals and outcomes with those that have perhaps been laid out previously for the particular process.

Paradox 4: Continuous innovation versus stability. The first fifteen years of Puntos’ work was characterized by a host of innovations in terms of methodologies, strategies and content. The organization had the support of donors to invent, experiment and innovate. Those were also the most productive years in terms of innovation. As mentioned previously in this chapter, these innovations include methodologies, approaches to certain issues, media formats and how these elements have been combined. Other authors have also commented that Puntos’ approach to TV drama is distinct from other E-E projects aimed at promoting behavioral and social change, in terms of storyline structures, character development and exploration of issues (Tufte, 2005; Rodríguez, 2005).

However, continuous innovation may be unsustainable. Complexity Science indicates that systems, in general, have a tendency to resist change and gravitate toward stability. Continuous innovation can be draining since it can quickly exhaust an organization’s energy and resources.

We keep looking for new, better ways to do things. We learn from our and others’ experiences and we want to try new things. It is exciting and keeps us motivated.
We know we are good at innovating, even though we know that our tolerance for uncertainty and our level of energy have a limit, we can’t help but push ourselves forward all the time. (A. Criquillion, personal communication, April 12, 2012)

This happens in part because continuous innovation also implies taking risks. “Every time we create something new, there is a risk that it won’t work or that the level of investment will surpass our personal and institutional capacities” (V. Castillo, personal communication, April 12, 2012).

At the same time, the need to reflect on efforts and systematize knowledge and experience as a way to improve programs requires time away from experimentation. The need to reflect has been one of the brakes on innovation at Puntos. “It doesn’t matter how good we are at what we do if we are not capable of systematizing that knowledge and sharing it with others and if we don’t find the time to reflect on what works best” (V. Castillo, personal communication, April 12, 2012).

In addition, organizations receive conflicting messages from donors. Puntos commented that, on one hand, donors expect organizations to reach a “plateau” while on the other hand donors also appreciate innovation and originality. Thus, many donors have a policy of not supporting an organization after a certain number of years and expect the grantee organization to gain self-sufficiency during granting period. At the same time, donors are likely to support original, bold initiatives rather than programs that have a history of implementation (A. Criquillion & A. Bank, personal communication, April 12, 2012).

This mechanistic, pre-determined approach to what organizations should be doing does not reflect what Complexity Science has observed about the natural evolution of
complex adaptive systems. The concept of ‘eco-cycle’ sheds light on cycles of innovation within social change organizations (Zimmerman et al., 2001).

According to this concept, every complex system continually cycles through four phases: birth, maturity, creative destruction and renewal. These four phases are easy to recognize and have been clearly illustrated in examples such as forests and other eco-systems. In organizational terms, birth occurs as an organization is starting out or as a strategy is being designed and implementation begins. This is a period of high energy, lots of new ideas and trial-and-error learning. After a while, the organizations starts to seek efficiency and uses feedback and organizational analysis to improve its work, at which time the organization or strategy reaches maturity. It is important to note that continuous innovation is essential for the evolution of the organization or strategy during these first two stages. After that period of maturity, the organization or strategy must adapt to shifts in the environment and here begins the creative destruction phase, where components, factors, practices or other elements evolve or are eliminated. This process of transformation is what provides conditions for new growth or renewal, which consists of reflection, systematization and planning new approaches.

Thus, the paradox between continuous innovation and stability described in this section, similar to the other paradoxes, is not so much an either/or contradiction as a natural part of every organization’s life cycle, in other words, a both/and situation common to complex systems. The implication of this particular feature is that organizations and donors need to recognize and accept this regenerative cycle and allocate resources accordingly. During periods of innovation (birth and maturity),
organizations require resources that allow them to experiment and learn, while during periods of stability (creative destruction and renewal), organizations need resources to reflect, systematize and prepare for new growth.

The tension between continuous innovation and stability will be discussed further in the next section, in relation to organizational climate and energy.

This sub-section has focused on potential issues faced by organization carrying out Complexity-based strategies, such as tensions around planning under uncertainty, effective impact evaluations and approaching paradoxes and both/and situations rather than either/or situations. The example of Puntos leads to the conclusion that it is precisely the organizational culture instilled by Puntos’ founders and leaders that has allowed the organization to employ a systemic approach to social change. That is, although there are certainly interesting innovations in many of Puntos’ main communication strategy components and the way they are put together, it is what goes on behind the scenes – in the organization itself – that results in the strategy being effective.

The next sub-section explores the conclusion that organizational culture is a determining factor in how an organization approaches its work.

**Fostering a culture of innovation and systemic vision within the organization.**

Perhaps the most meaningful insight of this study is the observed relationship between Puntos’ innovative and systemic approach to social change and its organizational culture, including leadership style. While examining Puntos’ organizational culture was not part of the original design of this study, its relevance became increasingly apparent during fieldwork and data analysis. Firstly, the success of Puntos’ communication strategy
cannot be understood in isolation from its organizational culture and leadership style and, more generally, a Complexity Science approach to social change requires a sensitivity to organizational culture and leadership. The emergence of this particular insight over the course of the study demonstrates the potential of Complexity Science to generate unexpected insights and draw attention to previously overlooked connections.

Puntos’ work has often been presented to other practitioner organizations, scholars and donors with a touch of mysticism. Puntos’ success is often attributed to social capital, access to funds, “gifted” founders, employees’ hard work and passion or even just plain good luck and a dose of ‘je-ne-sais-quoi’. While social and human capital has played an important role, nobody has been able to put their finger on what exactly has made the organization so successful. Examining Puntos’ success from a Complexity Science perspective, however, perhaps provides some answers.

When applied to organizations and management, Complexity Theory argues for de-centralized decision-making and leaders who seek to facilitate, rather than impose (Jones, 2011b, Westley et al., 2007; Wheatley, 2005). Moreover, as previously discussed, it emphasizes the importance of relationship and the quality of interactions in system outcomes (Kimball, 2012; Zimmerman et al., 2001). Nonetheless, formal and informal leaders are important in the sense that they spark changes in the system by questioning the status quo, raising awareness, creating connections, fostering interactions and guiding the general sense of direction of the emergent changes in the system. In this sense, some complexity thinkers stress the importance of prioritizing people, especially those with
vision, passion, entrepreneurial skills and leadership potential, over programs or projects (Westley et al., 2007).

Thus, organizational culture and leadership style have significant effects on an organization’s ability to innovate and level of resilience because they determine what an organization does and how it does it. In addition, Complexity Science draws our attention to the influence of setting or “microstructures”, on patterns of interaction (Lipmanowicz & McCandless, n.d.)

The following section contains observations regarding key aspects of Puntos’ organizational culture and specific microstructures that have fostered innovation and adaptability within the organization. Key aspects of organizational culture include a focus on people, not programs, collective leadership and a high level of autonomy for staff and key microstructures include building design and office layout. The chapter closes with a discussion of the relationship between innovation and uncertainty and its impact on organizations and their staff.

**Prioritizing people over programs.** Puntos’ most important resource has always been its personnel. From the founders to the frontline staff, most people working at Puntos are entrepreneurs who believe strongly in social justice.

This entrepreneurial essence is very likely due to the organization’s history. Puntos can be seen as a pioneer organization. It was founded to work on issues like strengthening social movements and promoting collective action and leadership diversity that were overlooked by other organizations. With no footsteps to follow, Puntos’ team had to design its strategies and programs from scratch. There were no “experts” that
could be hired, only feminist entrepreneurs willing to take on the challenge. As Ana Criquillion, founder of Puntos, explained,

Most people at Puntos, especially those here since the beginning, had to create their own job profile, methodologies, acquire the necessary skills and capacities and figure out how to do the job because nobody knew back then how to do it. So we have always looked for versatile entrepreneurs, people willing and capable of creating something new, not only able to come up with the idea, but also able to implement it…. We hired entrepreneurs, period, because we knew that no matter what we decided to do [as a strategy] we would have what we needed to do it. Vision and entrepreneurism were our best assets. (personal communication, April 4, 2012)

Also, the need to adjust its programs and initiatives to keep up with a changing context, required leaders that were versatile and able to keep the big picture in mind.

We have the constant feeling that once we get the answers, someone changes all the questions and we have to start all over again. That happens all the time, and that forces us to be flexible in what we do, and in our individual role. For instance, people at Puntos move around the different areas and programs in a very dynamic way. We have leaders in management positions but also have “emergent” or natural leaders in the programmatic teams, and all of them play a role in defining Puntos’ direction…. In Puntos, unlike in most organizations and corporations, you don’t have a career path starting at the bottom and working your way up to the top. We evolve with the organization and with the challenges we face. Today I could be part of the Management Team and next year I would come back to be a team member with different responsibilities. That is not a demotion. It is just that under the new circumstances I am more useful and my capacities and interests are better used in a different role. This versatility serves the organization but it also serves my interests. It allows me to keep growing and stay motivated. I am always challenged by new tasks and keep acquiring new skills, knowledge and perspectives. (H. Jirón, personal communication, April 9, 2012)

The interview material demonstrates that Puntos values people and relationships as a key resource for the organization. “We always bet on people before any other kind of resources and on processes before products and outcomes” (A. Criquillion personal communication, April 12, 2012).
Collective and diverse leadership. Puntos has employed an unconventional leadership style that emphasizes diversity and collectivity. For many years, Puntos advocated for and implemented a management structure based on collective leadership that permeates the organization.

For many years, Puntos was overseen by a “Dirección Colegiada”, or Collegiate Executive, consisting of a team of directors that oversaw every component of Puntos’ work, from finances and fundraising to the design and implementation of programmatic strategies. This body was horizontal and democratic. “While hierarchies [at Puntos] are not entirely absent, authority is established on the basis of skills, experience, and level of commitment with the institution, and not necessarily by title or position” (Arosteguí & Carrión, 1997, p. 7).

The Collegiate Executive includes representation from all areas of Puntos and a diversity of people and leadership styles. Power centralization is something that, in general, we reject at Puntos not only because it is anti-democratic, but also because we find it inefficient…. Having a collective body of directors is not populism; it is a very pragmatic strategy that allows for synergy of leadership styles, perspectives, strengths, knowledge, experiences and skills. We were facing unknown challenges and we needed as many heads thinking about solutions as we could afford…. Of course often we disagreed, but we learned to appreciate and take advantage of our differences. What could have be seen as something that could divide us, became our most important strength when making complex decisions. (A. Criquillion, personal communication, April 4, 2012)

This collective body also allowed for diversity, which was the kind of leadership Puntos wanted and needed. Puntos sought to ensure that people of different ages, gender, backgrounds, sexual preference and leadership styles were on its Collegiate Executive. Most directors have employed a horizontal leadership style where leaders play the role of
visionaries and strategists rather than commanders. As explained by a co-executive director,

My role as executive director is more behind the scene than in the front. I am in charge of making sure that what we do is coherent with our vision and mission, to keep my eye on the big picture and help others to do the same. But I would never pretend to know more than the team members. They are the experts in their specific area. I consult with them to make decisions that affect their program and we work together to make decisions that affect the whole strategy. But that is my style and we have several leaders here, each one with their own style. Some of my colleagues are more audacious motivators and intellectuals, the “I have a dream” kind of leaders; others are the ones that keep the house in order and bring a little of pragmatism to our work. Each one of us has her own style and each is equally valuable and equally essential. We complement each other. None of us could play all those roles at the same time. (I. Solórzano, personal communication, April 5, 2012)

In addition, the organization has promoted and rewarded individual leadership initiatives. As Vilma Castillo explained,

Anyone willing to take responsibility, to share her opinions, to lead processes, take initiatives and show a proactive attitude earns the right to sit at the decision-making table and have her voice heard. It doesn’t matter what is the current position this person holds at that moment, as long as she is willing to take on the responsibility. (personal communication, April 4, 2012)

Diversity in leadership and perspectives led to richer discussions and better decisions and ensured broad-based commitment to institutional decisions. Complexity Science favors this approach to leadership. As Jones (2011b) stated, “in the face of complex problems, leadership must be facilitating and enabling, working through attraction rather than coercion, and communicating a vision of change around which responses can emerge” (p. 4).

**Autonomy and self-organization.** Complexity Science advocates for decentralized power to enable self-organization. At Puntos, power has been, for the most
part, highly decentralized. This decentralization has allowed for the emergence of internal leaders and encouraged self-organization throughout the organization. It has allowed the organization to avoid becoming bureaucratic and paralyzed by one or more primary leaders who are overwhelmed with decisions and unable to keep pace and deal with the complexities of social change challenges.

Puntos has promoted autonomy and self-organization – and thus unleashed the wisdom of the collective – by focusing on strengthening its employees’ leadership and implementation capacities and creating the right conditions for them to take on ever increasing institutional challenges. This has occurred in two ways.

First, Puntos has sought to ensure that everyone (from the board of directors to the administrative and maintenance staff) is on the same page regarding the vision, mission, values and boundaries of the institution and then gives them the freedom to individually and collectively explore different alternatives to reach their team and organizational goals. In the words of Amy Bank, creator of La Boletina and later one of Puntos’ executive directors,

We have an internal joke at Puntos about new employees’ initiation: In most cases, especially at the beginning when the vision, mission and principles were clear and we had an idea of what we wanted but no clue how to do it or even where to start, you were told what the goal was, what the boundaries were and then you were pushed on to the stage and expected to get on with the show. (personal communication, April 8, 2012)

In summary, having a shared understanding of the organization’s vision, mission, principles, values and goals gave teams a certain level of freedom to make decisions and adjust their activities in response to the opportunities and challenges as they arose. Moreover, awareness of other teams’ activities and their place in the overall strategy,
boosted confidence and allowed staff to spontaneously form ad-hoc committees to address common challenges or take advantage of opportunities that might benefit the strategy (even when it is out of any particular team’s work scope). These opportunities to innovate have, in turn, allowed staff to practice and build their leadership skills

**Microstructures for dialogue and exchange.** “Microstructures” are the ways and settings in which people interact. They include everything from physical infrastructure to organizational policies, operating processes and how meetings are structured (Lipmanowicz & McCandless, n.d.). They influence interactions and in turn the self-organized phenomena that emerge. As Kimball (2012) argued, “enhancing people’s ability to interact and to develop enhances the adaptability of the organization” (p. 4). Thus it is important to pay attention to microstructures in complex systems.

The importance of interaction for creativity and innovation is a common theme. It is commonly thought that productivity requires isolation, while innovation requires interaction. The recent decision by Yahoo's CEO Marissa Mayer to not allow employees to work remotely is a case in point. In her memo to the company, Mayer said,

To become the absolute best place to work, communication and collaboration will be important, so we need to be working side-by-side. That is why it is critical that we are all present in our offices. Some of the best decisions and insights come from hallway and cafeteria discussions, meeting new people, and impromptu team meetings. Speed and quality are often sacrificed when we work from home. (Hindman, 2013)

Apart from the multiple critics that claim that several studies show that working from home increase productivity, *The New York Times* (Miller & Rampell, 2013) reported that Mayer's move was not about productivity but about the company’s focus on
creativity. Creativity is boosted when a group unleashes the collective wisdom allowing for multiple ideas and meaningful feedback to create something new.

Turning now to Puntos, the organization was intuitively sensitive to the need to employ positive microstructures within the organization to enhance creativity. For example, Puntos’ building was intentionally designed to promote spontaneous and continuous exchange among team members and between the staff and the directors.

Most offices employ an open space concept and desks are generally positioned facing each other. Most divisions are made of glass, which allows people to see each other frequently and just turn around if they needed to consult something with a colleague. Moreover, the building itself has an octagonal shape with a plaza in the middle, which compels people to cross paths every time they want to go from one part of the building to another. The plaza, the cafeteria – an open space near a garden with free coffee all day long – and the covered walkway around the central plaza that connects all the offices were all designed to ensure informal and inviting spaces where people could run into each other and take the opportunity to exchange information, make quick consultations, arrange meetings, or just build their relationships during their break. As Hazel Jirón recalled,

We had so many spaces and opportunities to talk that we didn’t have to wait for a formal meeting to pitch an idea or to consult somebody about something. The directors have also always been very accessible; actually, many decisions I made in consultation with Amy occurred while waiting in line for the restroom located by the plaza…. It was the most efficient system we could come up with. Things were consulted and shared in a timely and expedient matter so nobody needed wait for a formal meeting to be scheduled and held to make progress on their work or make urgent decisions. (personal communication, April 9, 2012)
Evelyn Flores added,

From the outside one could think we spend our days discussing ideas with one another and never actually get the work done. If we were not in a meeting, passionate discussion about a topic or idea was going via back and forth email exchanges or face-to-face in the cafeteria. Because the way the offices were designed, one just needed to turn around to run an idea by a colleague and get immediate feedback. When you are that involved in and informed about what is going on inside and outside the organization, you are able to do a better job and take better decisions. (personal communication, April 10, 2012)

Despite the potentially overwhelming quantity of spontaneous exchanges and on-the-spot decision-making occurring on a daily basis in this environment, staff did not complain about feeling excluded or not consulted on specific conversations or decisions. On the contrary, this environment enabled innovation, productivity and adaptability within Puntos.

**Flexibility and adaptability and tolerance toward uncertainty.** Having a team of audacious entrepreneurs working together in an environment that promotes dialogue and self-organization is a good start, but in order for innovation to flourish, the whole organization must demonstrate, on the one hand, flexibility and adaptability to feedback and changes in the environment and, on the other, a high level of tolerance toward uncertainty.

As a frequent pioneer and collaborator, Puntos has had to deal with a great amount of uncertainty. Innovation or operation under new conditions implies divergent views on how to proceed and uncertainty as to outcomes. Collaborative settings mean multiple opinions and agendas and the uncertain outcome of consensus-based processes. Similarly, collaboration with new partners has the added uncertainty of ability of the two
entities to successfully work together. Thus, Puntos has had to develop high tolerance towards uncertainty in order to operate.

Puntos’ willingness and ability to walk the line between the possible and the impossible, to shoot for higher dreams, depended greatly on our capacity to deal with uncertainty. We trusted we didn’t need to know exactly what would happen in order to keep moving forward and trying new things. There is no way you can predict what will happen when you are doing things for the first time and have no previous experience to rely on, especially when you are working with a bunch of human beings on sensitive issues and cannot know what their reaction will be. We just needed to trust the process…. Without that capacity to deal with uncertainty, we wouldn’t be able to do what we do. We need to keep taking risks, although calculated ones, risks that we could live with, in order to do the work we do and follow our mission. (A. Criquillion, personal communication, April 6, 2012)

Ruben Reyes, one of the creators and facilitators of the youth camp, provided another example of forging ahead despite uncertainty,

We believe in the principles that guided our work and we had to trust our capacities and those of the people we were working with…. Even after years of experience with the youth camps, this trust in the process is valid and necessary. Every time, around the fourth day of the camp, all participants explode in an emotional crisis - it is part of the process when you challenge old paradigms - and every time the facilitators freak out at the possibility of not being able to get closure, to get things back under control. The difference after so many years of going down the same path is that we now know better and we trust the process. Crisis is unavoidable and necessary, uncertainty is always present, but we keep trusting the process and at the end it always resolves itself, the participants find their way out of the crisis. (personal communication, April 10, 2012)

Both of these examples contain a reference to “trusting the process” which seems to indicate a certain amount of faith or trust in one’s own intuition or in any particular process to work itself out. In addition, the “calculated risk taking” mentioned by Ana Criquillion seems to suggest that when considering a new initiative, action or approach, the organization weighs the risk of failure against the potential benefits of success in order to decide if the action is something the organization really wants to do.
Nonetheless, Puntos’ experience suggests that uncertainty does take its toll on staff and that it is important to be aware of this. Vilma Castillo explained how the organization had, at least at one stage, been able to support staff as they dealt with the stress caused by the uncertainty of constant innovation.

One thing was that, as an organization, we seemed to cope with uncertainty in a smooth way, and another thing was the way each one of us, as individuals, were dealing with the stress and the drain caused by uncertainty. We used to take care of our feelings as a collective. We used to hold meetings to talk about these issues and air them together, to find ways to cope with the stress. We also used to be more compassionate with ourselves and put things in perspective. As Puntos grew, we lost that capacity, we put those practices at the bottom of our list of institutional priorities and we now see the consequences of it. People are tired and feel isolated from dealing with the stress and that damages the capacity of the whole institution to be bold and innovative. (personal communication, April 6, 2012)

In other words, investment in self-care, at both the individual and institutional levels is one of the elements that allow an organization and its staff to cope with uncertainty and be able to be adaptive and innovative over the long-term. Here, self-care refers to ensuring that there is time and money to discuss issues, engage in theory building, systematization and collective reflection, invest in team building and reinforce collective trust, among other activities. This is an important lesson for institutions and donors in the current environment of results-oriented programs, as this approach curtails an organization’s ability to engage in processes that from a Complexity Science perspective are key to promoting innovation and enhancing system dynamics.

In summary, organizational culture, leadership style and microstructures play an important role on an organization’s ability to innovate and adapt because they are determining factors in ‘how’ an organization goes about its work.
It is possible to identify specific aspects of Puntos’ organizational culture and microstructures that have fostered innovation and adaptability within the organization, including a focus on people, collective leadership, a high level of autonomy for staff, building design and office layout. Equally importantly however, is the fact that the organization has continually demonstrated flexibility, adaptability and a high level of tolerance toward uncertainty. It is these underlying factors that have allowed the organization to engage in Communication for Social Change in an innovative fashion that, in many ways, reflects the basic tenets of Complexity Science.

To conclude, this chapter has explored how Complexity Science could inform Communication for Social Change models and strategies as well as the implications, for social change organizations, of approaching Communication for Social Change from a Complexity Science perspective. It has discussed not only how Complexity Science can inform ‘what’ an organization does, but also ‘how’ the organization goes about its work, in terms of planning, evaluation, engagement with peers and the public and organizational culture.

The principal insights from the analysis include the importance of systemic thinking and a focus on intersectionality, the importance of observing, working with and enhancing patterns of relationship within both target populations and networks of social change agents, the potential effectiveness of addressing problems by investing in alliance building and networking capacity and finally the importance of facilitating self-organization within those alliances rather than imposing pre-determined designs.
While the examples discussed are but one interpretation of Complexity Science applied to Communication for Social Change, they do serve as a point of reference for other organizations, grant-makers, consultants and evaluators interested in exploring Complexity Science theory in the design of Communication for Social Change strategies and other development interventions. The most salient lessons in this regard will be highlighted in the final chapter, as a series of recommendations for practitioner organizations interested exploring this approach to Communication for Social Change.
Chapter 5: Conclusions and Recommendations

This study aims to contribute to the effective practice of Communication for Social Change by exploring the application of the principles and ideas of Complexity Science to Communication for Social Change endeavors. It reviews the literature on Complexity Science and illustrates possible interpretations and applications of Complexity Science principles and ideas to the Communication for Social Change field through the work of Puntos de Encuentro, a Nicaraguan, feminist, non-profit organization working in Central America.

The study seeks to help organizations design their social change interventions in a more systemic way. Its purpose is to provide a theoretical framework for the analysis of Communication for Social Change initiatives and to provide guidelines for organizations (including both practitioner organizations and donor agencies) interested in using Complexity Science principles and ideas to inform their Communication for Social Change strategies.

The study was guided by the following two research questions:

1. Which principles and ideas from Complexity Science could inform Communication for Social Change models and strategies and how?
2. What are the implications, for organizations engaged in Communication for Social Change, of applying Complexity Science principles and ideas to their work?
Chapter 2 discussed how Complexity Science could complement and enrich current trends in Communication for Social Change. Chapter 3 explained research design and Chapter 4 addressed the research questions directly.

The analysis presented in Chapter 4 was organized around five principles identified as relevant for the field of Communication for Social Change:

1. All complex adaptive systems have interconnected and interdependent elements, dimensions and hierarchical levels;
2. System-wide characteristics emerge from local interactions, learning and feedback;
3. In complex adaptive systems, order is emergent and self-organizing;
4. At the edge of chaos is where the system is more adaptable and creative; and
5. Complex adaptive systems are non-linear, paradoxical, unpredictable and sensitive to initial conditions, time and scale.

Overall, the study concludes that while the application of Complexity Science to Communication for Social Change is certainly not a foolproof approach to solving all social problems and cannot, in itself, guarantee social change, it can provide social change organizations, development agencies, donors, scholars and policy makers with a useful framework for addressing complex social issues.

Most importantly, Complexity Science posits a move away from the linear Newtonian paradigm that continues to dominate approaches to International Development. Newton put forth a model of the world using the metaphor of the world being a machine, in which the whole is the sum of its parts, and where, by dissecting and
understanding discrete parts, one can understand the basic external and universal rules or laws that will determine how the machine will behave. The machine metaphor is attractive because machines are predictable, and thus the metaphor provides society with the sense of control, stability and security, so yearned for by human beings.

Complexity Science, on the other hand, focuses not so much on the parts but, more importantly, on the relationship between those parts. Complexity Science considers social systems to be living organisms, where the whole can only be understood by the analysis of its parts plus the relationship between the parts. Furthermore, similar to any living organism, complex systems are unpredictable and context dependent. Their behavior is shaped by information obtained from their history (past experiences) and the feedback received from their interactions with other elements of the system.

Metaphors – like machines, or living systems – are important because they shape how humans perceive, understand and approach the world. In any research, action and evaluation initiative, the guiding metaphor and mental model will determine the kind of questions that are asked, the things that get noticed, the things that get overlooked, the interpretation of findings, the conclusions that are drawn, and the decisions that result from those conclusions.

By helping to shift paradigms and develop new metaphors, Complexity Science can increase the scope of inquiry, influence the design and implementation of programs and provide a new lens for the interpretation of results. Thus, Complexity Science has the potential to help Communication for Social Change practitioners and researchers better understand how to work with the ‘greatness’ of the whole and not just the parts.
Insights and Conclusions Resulting from the Analysis

The major insight resulting from this research is that how a Communication for Social Change organizations works is at least as important – if not, in some cases, even more important – than ‘what’ it does. That is, ‘how’ an organization and the people inside it think and work is potentially a determining factor in how effective it is in its work. A major conclusion, on the other hand, is the need to nurture the paradigm shift towards a systems approach that has started to take root in the Communication for Social Change field and in the International Development field more generally. The corporate sector is rapidly embracing a systems approach on the assumption that it improves effectiveness and profit and, while a growing number of actors in the Development field, especially some daring scholars and practitioners, are advocating for this new approach to social change, it is time for the whole Development community (including donors, governments and multinational agencies) to get on board.

Major insight: The difference that makes the difference. This study reveals that many aspects of Complexity Science principles are embedded in the work of Puntos de Encuentro. The organization’s communication strategy demonstrates an intuitive understanding of society as a living organism. Its strategy works on different levels of the system, through a combination of mass media communication, interpersonal communication and grassroots mobilization. It uses multiple mechanisms to address issues, and addresses themes and issues in a way that highlights their interrelatedness. While many other Communication for Social Change organizations also combine different media and methods and address the same or similar issues, Puntos has
developed innovative formats, methodologies and dissemination techniques. More importantly, it has developed integrated strategies that create synergy and are able to trigger change on multiple levels. While Puntos was the first organization working in the region to develop this kind of strategy, it is not the only organization in the world exploring these kinds of models; Soul City from South Africa (http://www.soulcity.org.za) and Breakthrough from India (http://breakthrough.tv) are two examples of such organizations.

This study suggests that what makes Puntos’ experience particularly relevant, the difference that make the difference⁴, is the way Complexity principles are embedded – although intuitively rather than explicitly – in both its approach to Communication for Social Change and in the very essence of the organization itself.

The components of Puntos’ strategy, how they are tied together and Puntos’ overall approach to Communication for Social Change demonstrate an intuitive understanding of the basic principles that govern the behavior of complex adaptive systems. Puntos has shown itself capable of fomenting big and small changes on multiple levels. That is, it is effective in “disturbing” the status quo and propelling the system towards change.

But beyond the communications initiatives themselves, Puntos’ organizational culture and functioning seems to be key to its success, and it is here where some of the Complexity Science principles can be seen. Having promoted and achieved a high level of shared vision around the organization’s mission and principles, Puntos has encouraged

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⁴ This phrase, originally coined by Bateson, it is used in this case in a colloquial sense based on a similar phrase used in Spanish.
emergent leaderships, freedom to self-organize and innovate, and facilitated the free flow of information and exchange, not only inside the organization, but with partner organizations and allies as well – a critical ingredient for the effectiveness of any social change endeavor. In addition, continuous research and monitoring of both programs and the changes in the environment contributed to the organization’s adaptability and its ability to take advantage of opportunities.

In my opinion, trying to replicate what Puntos does, in terms of Communication for Social Change interventions, without the corresponding organizational leadership and culture that underpins the work, would be as ineffective as trying to solve complex problems using a pre-determined recipe.

Major conclusion: Need for a paradigm shift. The research also revealed a significant number of challenges faced by Puntos that stem from its approach, which diverges from the linear and “machine” models that dominate the fields of Communication for Social Change and Development and that thus guide donor interests (Pomerantz, 2011; Melkote, 2012).

At the same time, there is a growing tendency to question the linear models and to begin to accept more interactive, ecological and “living organism” models that are, if not explicitly informed by Complexity Science, at least akin in their principles. The now not-so-new trends in management and organizational culture in private companies and public institutions like Google, Citibank, Visa International, the Muhlenberg Regional Medical Center and the U.S. Navy, for example, signal an advance in the corporate world (Australian Human Resources Institute, 2010; Bar-Yam, 2004b; Birute & Lewin, 2001;
Kelly & Allison, 1998; Plexus, 1998b). Although many development agencies and donors acknowledge the limits of the log frame models, they are not yet willing to give them up. As a result organizations seeking funding are required to present their projects as machines, even when they are based on a “living organism” model, and once the project is presented as a machine, it is expected to act like a machine.

Whereas companies and public institutions like those mentioned above are clear that a more open and creative organizational culture results not only in “good process” but also ultimately translates into more profits, development agencies and donors have been slower to recognize the potential benefits of giving up the linear paradigm. Given the emphasis on the kind and form of results traditionally expected from social change interventions, there is concern that non-linear models, when applied to non-governmental organizations and development strategies, will not be able to show effectiveness or a clear return on investment.

Therefore, for Communication for Social Change organizations to be able to work more fully within the kind of paradigm that Complexity Science principles suggest, the Communication for Social Change field will need to develop an advocacy strategy, accompanied by new, relevant and practical methodologies and tools, to allow decision-makers in the development and communication fields to move more confidently towards taking on a Complexity-informed approach.

In this sense, the insights, conclusions and recommendations that follow are meant to be suggestive and useful not only for practitioner organizations, but also for donors and other development actors.
**Conclusions and Insights for the Communication for Social Change Field**

Complexity Science highlights the importance of the interconnectedness between the elements of a complex system and between elements and their environment. This suggests that social change agents need to develop awareness of system-wide characteristics and design their Communication for Social Change strategies in response to that holistic vision.

Communication strategies should be designed in a way that acknowledges the interconnectedness, interdependency and intersectionality of the different elements, actors, dimensions and levels in a system and that uses those interconnections to create synergy and propel the system toward change.

Constant monitoring of changes in the environment and context, as well as dialogue with other actors and stakeholders about perceived changes and trends, is also important in this regard.

Complexity Science emphasizes the importance of the quality of the interactions among the agents in the system and posits interaction between elements as the main driver of system characteristics. This means that overall system characteristics are influenced by the information that circulates within the system. As networks are what allow information to be spread across the systems and beyond the systems boundaries, the introduction of new information into a system has the potential to engender system-wide change. New information must be meaningful to a system for the system to be propelled towards change.
In terms of Communication for Social Change initiatives, this means that intervention design and implementation should look to create spaces and opportunities for transformative interactions among social actors at multiple levels of the system. This includes seeking out and supporting new-to-the-system leaderships and using networking and alliance building to promote more and diverse interactions within and across the system. This may also mean working to transform implicit rules and norms that structure relationships so that they foment more open interaction among multiple kinds of social change agents and populations.

While all systems seek stability, Complexity Science suggests that the edge between chaos and stability – or status quo and newness — is where change is most likely to happen; that is, that moments of “crisis” in a system are prime opportunities for innovation. This suggests that social change agents who seek to push the system forward need to challenge the status quo by introducing new elements into the system. These new elements – be they new settings, new information, new perspectives and ideas, new or different people or new experiences – if meaningful enough to “disturb” the system, will propel the system to come to a new understanding of the world and therefore adjust itself to its new reality.

Communication for social change initiatives can “disturb” the system by making ideas and concepts accessible and meaningful to broader sectors of society in order to encourage participation and democratize public debate. They can also bring topics perceived as taboo or exclusive to the “private sphere” into the public eye, provide a forum for often-marginalized voices, perspectives and ideas to be heard, help diverse
sectors identify common ground and facilitate processes to engage people from diverse social sectors in respectful and productive dialogue.

Finally, one of the typical paradoxes faced by organizations working in Communication for Social Change is the perceived dichotomy between dissemination and dialogue. However, these apparent opposites are not only complementary but they are essential for communication strategies to be effective. Dissemination allows for new information and alternative perspectives to enter a system and potentially foster critical thinking and a favorable attitude in the public opinion, while dialogue allows for reflection, alliance building and individual behavioral change to occur and for collective actions to emerge.

**Recommendations for the Communication for Social Change field.** Based on the major insights and conclusions of the analysis presented above, I have developed a set of Complexity Science-informed recommendations applicable to the Communication for Social Change field. These recommendations are divided in two parts: first, conclusions and recommendations regarding the planning, implementation and evaluation of Communication for Social Change strategies (as addressed in Research Question #1 and Research Question #2); and second, conclusions and recommendations regarding the organizational culture of organizations engaged in this kind of work. This second point responds to the major insight of this study.

Each section will provide a brief description of the main conclusions followed by a set of specific recommendations for improving the effectiveness of practitioners’ initiatives and organizational performance.
As previously stated, Complexity Science does not provide ‘bullet-proof’ solutions or ‘recipes’ for success when it comes to addressing complex issues and problems; however, decades of work in the field have generated what the Plexus Institute (1998a) refers to as “good principles” – as opposed to “best practices” – which do provide insight into appropriate approaches to complex social change challenges.

The following recommendations for enabling systemic change are a combination of my own observations, conclusions stemming from this study and a series of scattered suggestions found in the literature (Eoyang, 1997; Kimball et al., 2004; Meadows, 1999; Mitleton-Kelly, 2003; Plexus, 1998; Westley et al., 2007; Zimmerman, 2004; Zimmerman et al., 2001).

For those scholars and practitioners that have been immersed in the social change field, the ideas and recommendations put forth in this chapter are not new. As the Plexus Institute pointed out some 15 years ago, many of these ideas were not explainable by theory. “They were the intuitive responses that were known by many but appeared illogical or at least idiosyncratic when viewed throughout traditional scientific theories.” (1998a, p. 4). What is new here is the grounding of the analysis of these elements in a case study of an organization that is working in Communication for Social Change.

**Recommendations for Communication for Social Change strategies.** This segment focuses on conclusion and recommendations for planning, conceptualization, implementation and evaluation of Communication for Social Change interventions.

While some of the recommendations described below share some similarities with recommendations presented by previously mentioned Complexity thinkers in works that
discuss Complexity Science applied to the fields of management and organizational change in the corporate and health care sectors, the following recommendation were directly extracted from the data and analysis of the present study and thus adapted to fit the characteristics of communication for social change endeavors. Specifically, the recommendations for conceptualization of communication for social change strategies are a unique contribution of the present study.

**Planning, conceptualization and implementation.** With regard to planning under uncertainty, Complexity Science acknowledges that system change – and thus social change – is an unpredictable, uncontrollable and paradoxical process that requires multiple efforts at multiple level over a long period of time, all of which makes accurate, detailed planning very difficult. However, Complexity thinkers do not suggest eliminating planning efforts all together, but instead that planning be approached in a different way.

Ideally, Communication for Social Change initiatives should be built around a shared vision about the complex nature of social change, a common mission and a basic set of common goals, and an agreement on the main strategies that will be employed. This framework would establish a general sense of direction and some basic, simple rules or minimum specifications guiding subsequent action, which should be validated by different forms of feedback, continuous research, monitoring and evaluation efforts.

This approach is useful for organizations who seek to influence public opinion and when organizations are working in uncharted territory. Every social change endeavor can be considered uncharted territory, as even “best practices” cannot lead to the same
results in the same location (because once an intervention has been implemented the context has necessarily changed) or somewhere else (because the system, its elements and it interactions are different).

Recommendations for planning.

- **Plan with a system perspective.** Pay attention to scale, time and co-evolution. Even when the organization does not address all the issues at all possible levels, identify and understand the sub-systems and macro-systems and how they affect and are affected by the changes in the system at hand and understand what role the strategy plays in the whole picture and how it affects and it is affected by other programs, factors and elements in the systems.

- **Establish minimum specifications and a general sense of direction.** That is, describe the mission the organization is pursuing and provide a few basic principles on how the organization should get there.

- **Build systems (i.e. strategies, programs, organizations) piece by piece.** Complex Systems evolve by ‘chunking’. A good approach to building complex systems is to start small. Experiment to get pieces that work, and then link the pieces together. That means components are integrated into the system only after they have been individually refined, proven and accepted by a collective, systemic jury over a certain period of time.

- **Address planning and implementation as an evolutionary process, where experimentation and learning are at the center of the process.** This implies
pursuing a range of different options and replicating and improving upon successful approaches in response to feedback.

- **Use both linear, step-by-step approaches and experimentation as appropriate.** In some cases, when there is a high level of agreement and certainty about the solution and outcomes, detailed planning and a step-by-step approach may work. However, when the problem is complex and there is both a low level of agreement among agents on how to proceed and a high level of uncertainty about the outcomes, it is more appropriate to employ an approach that explores new possibilities through experimentation, trials, autonomy, freedom, intuition and working at the edge of knowledge and experience.

*Recommendations for conceptualization.*

- **Challenge the status quo and promote paradigm change.** Speak passionately about the things that matter and give voice to those served who experience the problem at hand. Use mass media (national and local), interpersonal communication and capacity building platforms to “deconstruct” dominant discourses (uncovering the assumptions and the power relationships they sustain) and foster critical thinking among the public opinion for an alternative discourse. Democratize the debate and promote participation by making complex ideas and concepts and different perspectives accessible (both in terms of availability as well as in term of understandability) and meaningful to as many people as possible so everyone can voice their opinion and participate in the collective debate.
• **Create an edge between chaos and order to propel the system to adapt and change.** Engage people in and around their systems’ boundaries and challenge familiar patterns of behavior (the way people use to think and behave) by introducing “disrupting” agents, methods, settings, frameworks, language and metaphors by and exposing assumptions about the issue discussed.

• **Unveil the multiple connections in the system.** Link the global and the local, the personal and the political and unveil the interdependency and interconnectivity of social issues.

• **Create synergies between programs, formats, media, methods and issues.** By mixing, matching and linking elements, catalysts for both individual and more broad-based social change operate simultaneously making the integrated whole greater than the sum of the parts. The public benefits from both scale and more concentrated face-to-face reinforcement.

• **Foster organizational alliances and collective actions.** Design programs and activities that facilitate linking the disconnected (organizations, people and sectors) and create conditions for intense interactions.

• **Produce and share knowledge and resources and encourage others to do the same.**

*Recommendations for implementation.*

• **Provide all agents in the system with a common framework and sufficient autonomy.** Cultivate a shared understanding of the mission and a common vision of the desired changes and provide minimum specifications for the work to be
carried out. These basic rules or principles provide a clear framework and are critical to avoiding chaos while at the same time allowing the system to shape itself. Autonomy allows agents to adapt to changes in the context and make independent decisions along the way as they work to achieve goals.

- **Promote alliances and synergy.** Encourage local media, service providers and other organizations to collaborate on complementary social change interventions to ensure a multi-dimensional perspective on the issues.

- **Create and nurture conditions for self-organization and innovation.** Connect the disconnected and increase the quality of existing connections between elements of the systems and across their boundaries. Support intense interactions, networking and information exchange. Promote diversity of people, ideas, perspectives, leadership styles and approaches. Promote decentralization and autonomy by supporting co-managed and networked-governance. Distribute decision-making power and involve all agents in the system.

- **Promote open dialogue (formal and informal), participation, peer-to-peer learning, diversity and multiple perspectives.**

- **Encourage both public as well as private discussions of issues.** Both are important and necessary. Yet, when an idea arises in private, find ways to air it in public so everybody can participate in the debate and benefit from new ideas and perspectives.

- **Be sensitive to changes and new trends emerging in the system outside the formal structure and activities of the intervention.** It is easy to become too
focused on what is happening within the boundaries of an intervention and overlook important changes and emerging trends that often represent great opportunities for change.

**Monitoring and evaluation.**

Turning now to impact evaluation, social change agents are often challenged by impact evaluations, partly because impacts, especially in the Communication for Social Change field, are difficult to demonstrate. Furthermore, impact evaluations are, in most cases, constrained by ideas of what should be assessed and/or measured as well as when, how and why. Impact evaluations are often designed during the project-planning phase, when how outcomes will unfold is still very unclear, and conceived in the same linear fashion as the strategies they seek to evaluate. This approach may lead to a narrow, and even inaccurate, understanding of the whole system and may very well cause meaningful information that lies outside the scope of the evaluation to be overlooked.

Complexity thinkers have generally agreed that new methods of impact evaluations are needed in order to effectively assess performance in a complex system. Systemic evaluations should seek to document the entire range of effects triggered by an initiative, irrespective of whether or not these impacts are in line with original intentions. Exceptions, discontinuities, unexpected results, side effects and even apparent reversals are valuable indicators of changes in the systems and can provide insights that can help to improve implementation. Furthermore, a more systemic approach to evaluations may offer a better understanding not only of what happened, but how and why it happened. In addition, it can yield information on how the system works and how it can be influenced.
Recommendations for monitoring and evaluation.

- **Create short and cost-effective feedback loops between monitoring and evaluation and action.** Build a cluster of evaluations by providing everyone with few simple rules and encourage them to do evaluative activities on their own. Some of these basic rules can include: look for differences that make a difference, inform everyone in a way they understand and care, and look for things that can inform actions.

- **Make monitoring and evaluation iterative, flexible and evolving.** Keep evaluation design open and flexible, making it adaptable to the constant changes in the environment and in the project. Revise the design frequently.

- **Have ‘users’ of the evaluation design and oversee the study.** Actors are more likely to respond to evidence where it emerges in the context of trust and ownership.

- **Make learning the main objective of every evaluation process.** Make all information accessible to all stakeholders in all the phases of the project. This allows all individuals involved in the process to contribute to the analysis, areas of inquiry, questions and actions. This process will allow everyone to learn from their own experience, adapt their strategies according to the emerging changes and needs, build evaluation capacities in the community, and make the interventions more efficient and effective. It will also avoid the allotment of blame or merit at the end of the project based on retrospective analysis of the results.
Include as many methodologies, methods, time cycles, perspectives, and informants as possible.

Invest in research that brings light into common understandings of complex phenomena and invest in the development of systemic approaches and methods to planning, evaluation and organizational change.

Recommendations for organizational culture and functioning of practitioner organizations and of the groups and networks to which they belong. This segment focuses on conclusion and recommendations for the leadership and management of practitioner organizations and the networks they belong to. It also provides insight relevant to the international donor community and its relationship with practitioner organizations.

A major insight from this study is that organizational culture, including leadership and management style, are potentially significant determinants in an organization’s ability to be flexible, resilient and innovative in the face of continuous changes and thus key to determining its ability to create change in a system. Organizational culture, then, is a prerequisite for the successful design, implementation and evaluation of any Complexity-based Communication for Social Change strategy. In order to use Complexity Science to inform the design and implementation of a communication strategy, leader and managers have to change their mental models from one of directing and controlling to one of providing a framework that liberates collective intelligence. They must also forego an attachment to outcomes and focus on improving processes.
Recommendations for leadership.

• Keep the system perspective present in the mind of all stakeholders. The system frame – as in the whole being greater than the sum of its parts – should set the stage for all discussions and resulting decisions. It allows people to see how their particular perspective and role both contributes to and is affected by the overall outcome.

• Make sure that all personnel including leaders, board members and employees, know, understand and share the organization’s vision and mission and have a solid framework. A solid framework and the right level of autonomy to adapt to changes and make decisions that will help staff to achieve the organization’s goals.

• Be a facilitator and enabler. Be a leader who facilitates, orchestrates and manages boundaries and who, in this way, enables the system to finds its own form. Leave behind attachment to outcomes to instead focus on improving processes.

• Prioritize people and relationships. Support people with vision, strong sense of calling and entrepreneurship and leadership skills. Strengthen collective and diverse leadership. Build connections between elements within and across system boundaries. Promote alliances and networks.

Recommendations for management.

• Manage program implementation with minimum specifications and a general sense of direction. Remind personnel of the organization’s mission and provide a
few basic principles on how the organization should get there. These minimum specifications include the dos and don’ts for implementation.

- **Be sensitive to patterns of interactions within the organization and in the networks to which it belongs.** Identify the rules that guide patterns of interactions within the system and, when necessary, take measures to change those rules to fit the kind of collective behaviour needed to improve the efficacy of the organization and the network’s collective actions.

- **Remove barriers to innovation and fuel self-organizing processes.** Simplify procedures, facilitate connections and build in capacities. Provide resources to emergent ideas or dynamics quickly and flexibly. People need spaces, time and material resources to explore and test alternative approaches. Observe the environment, identify systemic factors that counteract self-organization and work to remove or change them.

- **Uncover and work with paradoxes and tensions.** Competition and cooperation, innovation and stability and other apparent dichotomies are equally important and necessary in the evolution of an organization and the tension between them may become a great source of innovation. In a complex adaptive system, creativity and innovation have the best chance to emerge precisely at the point of greatest tension and apparent irreconcilable differences. Rather than smoothing over these differences focus on them to seek a new way forward. In the specific case of innovation *versus* stability, organizations and donors need to recognize and accept both stages as equally valid moments of a regenerative cycle and allocate
resources accordingly. During periods of innovation (birth and maturity), organizations require resources that allow them to experiment and learn, while during periods of stability (creative destruction and renewal), organizations need resources to reflect, systematize and prepare for new growth.

- **Make learning a primary goal for the organization.** Look for new insights everywhere, encourage feedback from different sources, promote peer-to-peer learning and invest in inquiry (both formal and informal).

**Limitations of the study**

Two limitations have been identified in relation to this study. First, the study was limited to the exploration of the application of Complexity Science principles and ideas to the design, implementation and evaluation of Communication for Social Change strategies through the experience of one organization. Yin (2009) and Stake (1995) argue in favor of using multiple case studies to make research conclusions stronger, especially when, as it is the case of this study, the analysis uses an interpretative approach. An illustrative case study analyzing the experience of two or more organizations would have reinforced the interpretation and would have added to the possibility of abstraction toward a theoretical contribution. Nonetheless, this study was restricted to a single case study due to time and resource limitations.

Second, in this study data were analyzed using Denzin’s (1998) interpretative or hermeneutic approach. This interpretative method consists of a complex and reflexive process of storytelling, where the stories fit into the espoused paradigms or perspectives. While I made a conscious effort to validate my analysis through triangulation and group
discussions, there is potential for a partial and partisan view, biased by theoretical inclinations and the guiding research questions.

**Final remarks and Suggestions for Future Research**

Since my initial introduction to Complexity Science in 2004, I have focused my work on the application of Complexity Science to improving the practice and effectiveness of social change efforts.

This study is a first attempt at investigating the application of Complexity Science principles to the design, implementation and evaluation of Communication for Social Change strategies and discussion of the ensuing implications for social change organizations.

I have argued that Complexity Science can suggest a different approach to social change strategies that allows practitioners and scholars to ask different questions, get different answers, experiment with interventions and better understand what does and does not work in each context. This applies to both communication strategies and the organizational culture behind these efforts. Most importantly, Complexity Science can shed light on how and why social change happens. This conclusion makes the findings of the present, and future studies on this topic, useful for curriculum design of Communication for Social Change academic programs.

Nevertheless, there is still much to learn from and understand about complex adaptive systems and Complexity Science, and much more to understand about their application to Communication for Social Change.
One area for further research is to complement this study with a multiple-organization case study analyzing several organizations using innovative approaches to Communication for Social Change in order to strengthen its theoretical contribution. I invite readers to join me in this effort by contributing their own research or connecting me to organizations that could make for a significant case study.\(^5\)

A related challenge is to develop a Complexity-based markers and constructs that can aid the identification of features of Complexity Science in Communication for Social Change initiatives. Further research is required to use this and further studies to develop a theoretical model for the design, implementation and evaluation of Communication for Social Change initiatives and social movement building based on Complexity Science principles and theories.

Additionally, since the organization featured as an illustrative case study in this research has a feminist and a participatory approach to social change, I am aware of the shared values that these approaches have with Complexity principles and ideas. Issues of diversity, participation, dialogue, collective action, challenge of the status quo, among others are common features in all three approaches. Future research could highlight the similarities, differences and, most importantly, complementarities between them.

It is clear that a paradigm shift in the field of Communication for Social Change needs to be accompanied by changes in the field of International Development in order for Complexity-informed initiatives to receive endorsement and financial support. I have a personal commitment to promoting the emerging social change paradigm among the

\(^5\) The author can be contacted via her personal e-mail: Lacayo@mac.com.
donor community, governments and practitioner organizations. I hope this study contributes to invigorating the debate on how effective social change can be encouraged.
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Appendix A: Data Collection Protocol

The interviews, group discussions, observations and participatory exercises focused on the following broad research questions:

1. Which principles and ideas from Complexity Science could inform communication for social change models and strategies and how?

2. What are the implications, for organizations engaged in Communication for Social Change, of applying complexity science principles and ideas to their work?

Interview guide

Organization’s model and social change strategy

1. How would you describe your organization’s model\(^6\) for social change?
2. What is the organization’s strategy\(^7\) for social change? How it has evolved over time? What prompted it to evolve?
3. Why does the organization consider itself innovative? What do you see as the most distinguishing aspect or aspects of your organization’s model and approaches?

Planning and strategic management

1. Please describe the planning processes in your organization?
2. How the organization deals with the unpredictability of social change processes?
3. How do your organization/program deals with unexpected outcomes, opportunities and environmental changes (positive and negative) during the implementation phase?
4. What paradoxes or tensions (if any) have your organization faced? And how it had approached them?
5. What are the practical implications (in terms of the advantages, cost, benefits, and challenges) of this planning and management approach?
6. How (if) have these struggles been overcome? What it would require?

Self-organizing and innovation

1. How does you organization promote innovation and creativity (within the organization and with external elements – with its counterparts and within the collective spaces it participates?)

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\(^6\) A theoretical construct representing the components of the organization’s mission/work/strategy and how they are linked. It represents the organization’s theory of change: how to bring about or promote the desired change? (What the organization does.)

\(^7\) How the organization attempts to achieve the desired change. (How the organization does it.)
2. What are the practical implications (advantages, costs, benefits, challenges, etc.) of this approach to innovation?

3. Could you think of an example of self-organizing phenomena related to your organization’s work? Could you describe it? Why do you think it happened? What elements (could have) facilitated the self-organizing process and which elements (could) hindered it?

**Learning**

1. Why (the organization) considers itself a learning organization?
2. How/from whom/what does it learn? How do you keep your learning curve high? How do you use the knowledge acquired?
3. How do you monitor progress and impact?
4. Who/how do you design and implement your M&E methods and approaches?
5. What are the practical implications (in terms of the cost, benefits, challenges, etc.) of this M&E and learning approach?
6. How (if) have the challenges been overcome? What it would require?
7. How (if) does your organization promotes and facilitate learning outside the organization’s boundaries (with its peers, donors, and/or within the community)?
8. What are the practical implications (in terms of the advantages, cost, benefits, challenges, etc.) of this learning approach?
9. How (if) have these challenges been overcome? What it would require?

**Communication and relationships**

1. Please describe the communication for social change practices that are employed by your organization?
2. What principles (if any) rule the organization’s interactions and communication internally (between members and teams) and externally (with other organizations, audiences, networks in which it participates, donors, etc.)
3. Is the community involved in the planning, designing and evaluation processes? How? Have your organization adapt or incorporate new elements in its strategies/programs based on feedback from the community (beneficiaries, peers, allies, donors, public opinion, etc.)
4. What is your organization’s social movement building strategy? How it works?
5. What are the practical implications (in terms of the advantages, cost, benefits, challenges, etc.) of this approach to connecting, exchanging and networking?
6. How (if) have these challenges been overcome? What it would require?