Multi-purpose greenways and nationwide trails networks:
An examination of the
Trans Canada Trail and the Sendero de Chile

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Abstract

Greenways and trails have emerged in recent decades as a mechanism to facilitate access for increasingly urban-based societies to nature and its related services. Among the most ambitious of these initiatives are nationwide, interconnected networks of multi-use, multi-purpose greenways and trails, clustered under a single national project idea/vision, such as the Trans Canada Trail (TCT) in Canada and Sendero de Chile (SDC) in Chile. Unfortunately, limited research has been conducted to document the development of these national scale initiatives or glean lessons from their experiences. This thesis contributes to this knowledge gap by analysing these two national scale initiatives. Using document analysis and interviews, the evolution of the TCT and SDC networks is documented over time, emphasizing similarities and differences between them as well as identifying challenges and opportunities related to their implementation. Both initiatives have faced significant challenges in reaching their connection goals but have availed of opportunities, such as different strategies of multi-level and multi-stakeholder collaboration and partnership to advance their agendas. A virtuous cycle is recognized in relation to the positive feedback generated by sustained network expansion over time. It is hoped that the insights offered from this thesis may offer guidance to inform the development of similar projects elsewhere, particularly in less developed countries.

Key words: Greenways, nationwide networks, multi-level and multi-stakeholder collaboration and partnership, Trans Canada Trail (TCT), Sendero de Chile (SDC)

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GLOSSARY OF ABBREVIATIONS AND ACRONYMS

CORFO: Production Development Corporation *(Corporación de Fomento a la Producción)*
CONAF: Chilean Forestry Service *(Corporación Nacional Forestal)*
CONAMA: National Commission for the Environment[1] *(Comisión Nacional para el Medio Ambiente)*
DIPRES Budget Directorate of the Chilean Ministry of Finance *(Dirección de Presupuestos del Ministerio de Hacienda)*
EFE: State Railway Company *(Empresa de Ferrocarriles del Estado)*
FNDR: National Fund for Regional Development (*Fondo Nacional de Desarrollo Regional)*
FPA: Environmental Protection Fund *(Fondo de Protección Ambiental)*
FOSIS: Solidarity and Social Investment Found *(Fondo de Solidaridad e Inversion Social)*
GEF-SGP: Global Environmental Facility-Small Grant Program
IND: The National Sports Institute of Chile *(Instituto Nacional del Deporte)*
INDAP: National Institute of Agricultural Development *(Instituto Nacional de Desarrollo Agropecuario)*
LP-PTDN: Linear Park - Le P'tit Train du Nord
MBN: Ministry of National Assets *(Ministerio de Bienes Nacionales)*
MMA: Ministry of the Environment *(Ministerio del Medio Ambiente)*
MOP: Ministry of Public Works *(Ministerio de Obras Públicas)*
NGOs: Non Governmental Organizations
PAs: Protected Areas
RCM: Regional County Municipalities
SDC: Sendero de Chile
SDCP: Sendero de Chile Program
SDCF: Sendero de Chile Foundation
SERNATUR: Chilean Tourism Service *(Servicio Nacional de Turismo)*
SEGPRES: General Secretariat of the Presidency *(Ministerio Secretaría General de la Presidencia)*
SNASPE: National System of State Protected Wildland Areas *(Sistema Nacional de Áreas Protegidas)*
TCT: Trans Canada Trail
TCTTF: Trans Canada Trail Foundation
TCTCO: Trans Canada Trail Charity Organisation
UN: United Nations
UNDP: United Nations Development Program
UNEP: United Nations Environment Program
WWF: World Wildlife Fund

[1] CONAMA was the Chilean environmental Agency until January 2010 when it was replaced by the Ministry for the Environment

Chapter 1. Introduction

1.1 Background to the concept of greenways

Historically, greenways have been considered important connectors that have facilitated human activity through exploration, colonization, and transportation (Moore & Shafer 2001). They are also recognized as a mechanism supporting human access to nature and its related services (Ahern 2004; Hellmund & Smith 2006). As human societies become increasingly urbanised they seek ways to be in closer contact with nature and green spaces. In both developed and developing countries more than 75% of the population currently lives in towns and cities (Saunders 2004; Secretariat of the Conservation on Biological Diversity 2012). Not surprisingly, access to natural environments, and the recreational, aesthetic and cultural benefits associated with them, is often highly valued by urban residents (Searns 1995; Zube 1995).

Greenways have evolved in response to changing societal needs and how planners, urbanists and governments have approached these needs within the unique context of each country. The concept of greenways has evolved over the last century and is broad and diverse, defying characterization by a single definition. Little (1990, p.1), put forward four different definitions of greenways[2]. These multiple definitions of greenways are based on their purpose, location, spatial configuration and the cultural context in which they are planned (Ahern 2004; Little 1990; Searns 1995). The definition provided by Ahern (1995, p.134) is among the most comprehensive, inclusive and popular of those available:

> "Greenways are networks of land containing linear elements that are planned, designed and managed for multiple purposes including ecological,

[2] i) "A linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or overland along a railroad right of the way converted to recreational use, a canal, scenic road or other route"; ii) Any natural or landscaped course for pedestrian or bicycle passage; iii) An open space connector linking parks, nature reserves, cultural features, or historic sites which other and with populated areas; iv) locally, certain strip of linear parks designated as parkway or greenbelt"

> recreational, cultural, aesthetic, or other purposes compatible with the concept of sustainable land use".

The evolution of the greenways concept has historical roots that date back more than 100 years to earlier European-based concepts such as landscape axes, greenline parks, greenbelts and parkways (Ahern 2004; Little 1990; Searns 1995). Since the early 1990's – considered by many authors to be the beginning of the greenway movement in North America – an increasing interest in greenway planning in the US and Canada has influenced the development of greenway planning projects around the world. These projects have taken different names (e.g. backcountry greenways; recreational, greenway corridors; greenways trails; multi-purpose greenways; multi-use trails; long distance trails; among others) reflecting the different preferences and contexts of these countries (Fábos & Ryan 2004; Lindsey et al. 2008). Greenways are, as a result, commonly associated and integrated concepts of trails, paths, routes and other similar features (Corning et al. 2012; Lindsey et al. 2008) designed to support multiple outdoor recreational activities, such as hiking, biking, horseback riding and aquatic activities such as canoeing (Bryant 2006; Conine et al. 2004; Markeson 2007).

The literature on greenways is often closely tied to trails. A comprehensive definition of a trail is provided by the US National Park Service below:

> "A trail is a linear corridor, on land or water, with protected status and public access for recreation or transportation. Trails can be used to preserve open space, provide a natural respite in urban areas, limit soil erosion in rural areas, and buffer wetlands and wildlife habitat along waterways..." (US Department of Interior-National Park Service & American Trails 1990, p.2)

This definition clearly shows the interconnection and overlapping ideas concerning the concepts of greenways and trails. As argued by Moore and Shafer (2001, p3), "the terms trail and greenways are complementary, but often different in meaning. It is important to understand the similarities and differences in order to plan for, designate, develop and manage

both in multiple contexts". Building on Moore and Shafer (2001) and with reference to scale, it can be argued that trails are more frequently considered/understood as local corridors/paths whereas greenways both include and connect these trails with other types of corridors (e.g. bike paths, waterways and similar) as larger systems. This scalar connection is underscored by Ahern (2004, p.45) who claims that greenways can increase their level of use and their value when they "provide walking trail connections with other trail systems". According to this view, the term "greenway" works as an umbrella concept combining and including different types of open space connectors (as mentioned earlier).

In recent decades, the literature on greenways has expanded. For instance three special issues of the journal *Landscape and Urban Planning* have been dedicated to greenways; these appeared in 1995 under the title of "Greenways" presenting examples from the US, Canada, UK and Bulgaria. Again in 2004, under the title of "International Greenway Planning", examples from the US, Japan, South Korea, Portugal and the Netherlands were presented, and in 2006, under the title of "Greenways Planning around the World", examples from the US, Germany, Italy, Portugal, United Kingdom, Egypt, Japan Singapore[3], China, and Brazil[4] were profiled (Fábos & Ryan 2006; Jongman et al. 2004). Another special issue on trails and greenways was published in 2001 in the Journal of Parks and Recreation Administration under the title of "Trail and Greenways, Opportunities for Planners, Managers and Scholars. Below I will present a general summary of the content and focus of these four special issues.

Articles published in the 1995 special issue reflected a focus on research in the US and Canada (20 from the US and 4 from Canada) with little attention given to experiences in other countries (1 from UK and 1 from Bulgaria). Canadian research examples are focused on topics such as, metropolitan and urban greenway systems, focused on case studies of urban greenways, located in the metropolitan areas of Ottawa, Calgary, Saskatoon, and Toronto

[3] The case of Singapore is an exception in terms of scale. Singapore is an island city and also a country/republic.
[4] Article on greenway planning at sub-national (city and municipal) level

(Taylor et al. 1995), as well as greenways and urban fragmentation in Vancouver (Quayle 1995), management of urban river greenways in Saskatoon (Baschak & Brown 1995) and storm water management practices in greenways on the urban-rural fringe of Guelph (McGuckin & Brown 1995). Interestingly, Fábos (1995, p.4) in the editorial of the 1995 special issue, stated that: "we envision that when in the future greenway systems are mapped for the US, Canada, or any other country, they will be as evident on national, state, regional and local maps as our highway or railway networks are today".

A second special issue was published in the Journal of Parks and Recreation Administration in 2001 under the title "Trails and Greenways, Opportunities for Planners, Managers and Scholars in the context of the US". The issue provided general information about trails and greenways, from a focus on physical/material trail resources, to a focus on trail users and their behaviour, as well as an examination of the benefits of trails for users and their associated communities.

In the editorial for the 2004 special issue "International greenway planning: an introduction", Fábos and Ryan (2004) commented that although interest in greenway planning had increased in the US and Canada, publications on the topic, particularly from outside North America, were still limited in number. An article by Jongman et al. (2004) focused on experience with the national ecological networks of European countries is one exception but the objectives of these networks are on nature conservation rather than recreation.

The most recent special issue, "Greenway planning around the world" which appeared in 2006, included experiences at different scales ranging "from local, metropolitan to large-scale regions" (Fábos & Ryan 2006, p.2). This included research on large scale greenway planning efforts. For instance, in the case of the US, Fábos and Ryan (2006) described two greenways plans: i) the vision plan for the New England region which included six states in the Northeast region of the US; and ii) a proposal for an ideal network of greenways and

greenspaces on the lower 18 states of the US Interestingly this special issue included an article about a "nationwide" greenway network in the island-nation of Singapore in which Tan (2006) describes Singapore's efforts to develop a network of greenway corridors in this densely populated island nation (Fábos & Ryan 2006). However, and despite the fact Singapore is officially a republic, in terms of scale and for the purpose of this research the Singapore network will be considered as a city / metropolitan level, "greenway park connector network project" as it was defined by Tan (2006, p.47).

Despite the richness of the research on greenways reflected in these special issues, with the exception of Singapore, no attention has been given to nationwide, interconnected, multi-use and multi-purpose networks of greenways-trails clustered under a single national project idea/vision.

Trails in the form of multi-use long distance trails have recently gained momentum in Latin America, as reflected in several international conferences focused on their implementation. The first Conference on Planning and Management of Trail Networks of the Common Southern Market[5] (MERCOSUR) was held in Uruguay in October 2012. Various public and private organisations from Argentina, Brazil, Chile, Paraguay, Uruguay, and Venezuela signed an agreement[6] to foster hiking and other outdoor activities related to trails in Latin American countries at this conference and the Latin American Hiking Network[7] (Red Latino Americana de Senderismo) was founded. One year later, the second National Conference on Planning and Management of Trails[8], was held at the Universidade do Estado do Rio de Janeiro, in Rio do Janeiro, Brazil.

[5] I Congreso de Planificación y Manejo de Senderos en el MERCOSUR (Original title in Spanish)
[6] Piriápolis Declaration
[7] The Latin American Hiking Network is composed by: Argentina: Subsecretaría de Desarrollo Turístico - Ministerio de Turismo de la Nación and Club Andino Cholila; Brazil: Grupo de Estudos Ambientais - Instituto de Geografia / Universidade do Estado do Rio de Janeiro (GEA-UERJ); **Chile: Fundación Sendero de Chile**; Paraguay**:** Secretaría de Turismo, Dpto. de Patrimonio Natural; Uruguay: Asociación civil Vida Silvestre; Venezuela: Fundación Programa Andes Tropicales
[8] II Congresso Nacional de Planejamento e Manejo de Trilhas (Original title in Portuguese)

Momentum in South America acknowledges and draws upon experience with trail development elsewhere. For example, in 2013 American Trails, a non-profit organisation dedicated to trail development in the Americas, awarded honourable mention to the Trans Canada Trail at the International Trails Award ceremony for its outstanding trail planning, design and implementation and for enhancing the worldwide trail movement. At the 22nd International Trails Symposium, American Trails awarded the Latin American Hiking Network, of which Sendero de Chile forms part, the "International Partnerships Award 2015" (see appendix 1).

Despite growing momentum in South America, literature on greenway and multi-use trails planning remains limited and focused mostly on the US, Canada and Europe, with analysis focused mainly on sub-national scales such as metropolitan, regional and provincial/state-level (Fábos 2004; Fábos & Ryan 2004).

Only limited consideration has been given to the Latin-American experience; such as in Brazil, where Frischenbruder and Pellegrino (2006) explored greenway planning at the sub-national (city and municipal) level (Fábos & Ryan 2006). Furthermore, no attention has been given in the literature to current nationwide, interconnected, multi-use and multi-purpose greenways and trail networks in South America. The inspirational influence of greenways and trail networks developed overseas on the shaping of these emergent networks in South America (and elsewhere) has also not received the attention it deserves, with missed opportunities for documenting and learning from the experiences of implementing networks in different geographical, political, and socio-economic contexts.

In summary, a comprehensive account of the development and evolution of nationwide interconnected greenways and trail projects such as the Trans Canada Trail or Sendero de Chile is lacking. This thesis contributes to the literature by addressing this gap.

1.2 Research Statement

The overarching objective of this research is to contribute to the literature on greenway planning and implementation, particularly with respect to the emergence of nationwide interconnected greenways and trail projects in the Americas. The approach taken is to document and analyse the experience of two countries that committed to develop nationwide, interconnected networks of multi-use, multi-purpose greenways and trails, clustered under a single national project idea/vision. The cases explored are the Trans Canada Trail (TCT) and Sendero de Chile (SDC).

The focus of my analysis is twofold:

i) the evolution of the TCT and SDC networks over time, with reference to similarities and differences and also challenges and opportunities related to the continued expansion of the TCT and the stagnation of SDC.

ii) identification of the factors influencing the implementation and evolution of the TCT and SDC network with respect to collaborations and partnerships with multiple stakeholders

The present research fills a knowledge gap by providing comparative information on the respective experiences of Canada and Chile in nationwide interconnected greenways and trails network development**.** This research also contributes to the field by extending the definition of greenways to include a new stage in the evolution of greenway and trails networks. In identifying the factors that influence multi-stakeholder collaborations and partnerships in the implementation of these nationwide interconnected projects, it offers guidance to inform the development of similar projects elsewhere, but particularly in developing countries. Finally, this research underscores the knock-on effect of these initiatives by documenting how the SCD, particularly in its early stages, drew upon the

experience of the TCT and other trail networks in the US, and how the SDC in turn is now inspiring other Latin American countries to develop similar initiatives.

1.3 Positionality

My interest in conducting this research is tied to the fact that I am a Chilean, with training and experience as a Physical Education, Sports and Recreation teacher, and hold a postgraduate diploma in Development Studies from Massey University in New Zealand with a focus in Environmental Education. I have personal and professional connections in Chile which facilitated access to key informants related to the Chilean case study (SDC). With regards to the Canadian case study (TCT), the fact that the national office of the TCT is located in Montreal facilitated access to key informants and first hand documents and information while I was a student at Concordia University.

I also have four years of professional experience both as a development practitioner for an international NGO and as an international consultant for the United Nations Environment Program (UNEP) and the United Nations Development Program (UNDP) in their regional offices situated in Panama City, Panama. The present study was conducted as part of the thesis requirement of my M.Sc. degree.

1.4 Thesis organisation

This thesis is structured as a conventional manuscript thesis with seven chapters. **Chapter 1** provides an introduction to the research issue and a statement of my research objectives and contribution. **Chapter 2** presents an account of literature focusing on the evolution of greenways, benefits associated with greenways, as well as literature on governance, participation and co-management. In **Chapter 3** the methodology used in this study is outlined, with a description of the research design, data collection methods and data analysis process. **Chapter 4** presents a complete and detailed description of the case studies based on

document analysis and informant interviews which track the inception and evolution of the two case studies through time from different angles, namely: project's background, initial motivation, organisational structure, stage of network development, and challenges and opportunities. **Chapter 5** presents an account of factors that have influenced multi-level and multi-stakeholder collaboration and partnerships with regards to TCT and SDC initiatives, namely: i) support and incentives (stakeholders' access to technical assistance and funding) and ii) mutual benefits (local social-economic development) issues. **Chapter 6** discusses findings from both chapters 4 and chapter 5 in light of the literature reviewed in chapter 2 and presents the conclusions drawn from this study.

Chapter 2. Literature Review

The development of greenways, particularly multi-use greenways such as the TCT and SDC, is informed by research in several fields including landscape and urban planning, public participation, and collaborative governance, particularly co-management. Given the focus of the research on understanding the factors influencing multi-stakeholder partnerships and collaboration in the implementation of nationwide interconnected greenways and multi-use trails networks, recent and current literature addressing these topics is given particular attention. The review first describes the concept of greenways and its evolution. After reviewing the history of greenways, the benefits associated with multi-purpose greenway projects are discussed. A final section describes how greenway projects come to fruition and the structures of governance and participation that can support project creation and management.

2.1 Greenways

2.1.1 The evolution of greenways

The literature suggests three different stages in the historical evolution of greenways (Brasier 2011; Searns 1995): i) Generation 1 (G1), during the late 19th century; ii) Generation 2 (G2), circa 1960 – circa 1985 and iii) Generation (G3), circa 1985 – onwards, as shown in Figure1 below.

The first generation of greenways (G1 greenways) emerged from the "axis, boulevards and parkways" concepts associated with European cities, that first linked urban spaces (Searns 1995, p.66). Although these urban features were not technically greenways, they provided ground for the evolution of greenways as corridors that aimed to reintroduce nature into urban spaces by connecting them together (Searns 1995, Brasier 2011). North American

urban landscapes during the first half of the 19th century were characterised by three main functions; namely, "movement, use and vision-experience" (Searns 1995, p.67). Early efforts to link urban open spaces through the creation of boulevards working as corridors that weaved and integrated urban parks through the cities, became an important influence on parkway development in North America (particularly the US and Canada) in the late 19th and early 20th centuries (Hellmund & Smith 2006; Searns 1995). Links between intra-city open spaces provided new opportunities for movement and new recreational spaces for people at that time. As argued by Searns (1995), these two characteristics (movement and recreation) remain key elements in the later stages of greenway development.

Two iconic examples of parkways in the US are Central Park, New York City (established in 1857) and Boston's Emerald Necklace (established in stages between 1878 and 1890). Both parkways were designed by landscape architect Frederick Olmsted and his partner, landscape planner Calvert Vaux (Hellmund & Smith 2006; Rosenzweig & Blackmar 1992). According to Little (1990), the inclusion of linear connections between parks, such as in Boston's Emerald Necklace, was inspired by Olmsted's admiration for the wide boulevards of Paris and Brussels as well as the "great moral impressions" he experienced along the Panamanian green linear railroad corridor linking the Pacific and the Atlantic oceans in Central America (Little 1990, p.10). According to Pollock-Ellwand (2010), the work of Olmsted had an important influence on landscape architecture and city planning in Canada from the nineteenth century onward. For instance, Olmsted came to Montreal in 1908 to plan the Mont Royal Park, the most iconic urban park in Montreal, and its connection with Park Lafontaine, another large and important urban park (Pollock-Ellwand 2010). Both parks were connected by a "multi-lane parkway with a variety of roadways for different modes of transport via foot, car, carriage, and tram" (Pollock-Ellwand 2010, p.148). Near the end of World War II the concept of "greenbelts" was introduced by planners in London as a way to

limit urban sprawl, as urban rehabilitation and as a means of protection for rural hinterland around cities (Hellmund & Smith 2006; Jongman et al. 2004a; Searns 1995). According to Searns (1995, p.66) greenbelts and parkways, which he referred to as 'ancestral' greenways, played an important role in shaping later visions of modern greenways, in their use as both buffers for urban development and as travel routes for the urban population.

Generation 2 greenways date back to the second half of the twentieth century and were mostly new, non-motorized or traffic-free routes of travel where bicyclists, pedestrians and equestrians sought escape from the noise and fumes of automobile-dominated North American cities. The 1960s saw the start of a movement to convert abandoned railways to trails in North America (Little 1990). By the early 1980s the railroad industry started to decay in the US, with 4,000 to 8,000 miles of lines abandoned each year. In response, the American Rails to Trails Conservancy formed (Rails to Trails Conservancy 2015). The conversion of the former Canadian Pacific Railway to the 232 km long distance linear park "Le P'tit Train du Nord" (LP-PTDN) followed in 1990 within the province of Québec, between Montreal and Mont-Laurier. (Corporation du Parc Linéaire Le P'tit Train du Nord n.d) . The LP-PTDN is currently part (an important section) of the TCT and will be presented later as one of the case studies examined in the present study.

During the 1960s, urban planners, landscape architects, conservationists and an expanding civil society in North America and Europe began to recognise the importance of protecting waterways, wildlife corridors, trails and the ecological functions they support (Hellmund & Smith 2006). Across both continents discussions about integrating nature conservation policies with matters related to urbanisation, recreation, and agricultural planning began (Jongman 2004). In summary, the mission of G1 and G2 greenways was largely a response to a rapidly growing urban population. They provided city-dwellers with

access to nature and a source of recreation that could "help heal the human psyche by providing … greenery and solace" (Searns 1995, p.72)

Generation 3 greenways have a broader mission than their predecessors. In addition to serving human needs, which remains a vital aspect of G3 greenways, these new greenways aim to be multi-purpose, providing flood damage reduction, improved water quality, environmental education, cultural and heritage promotion, wildlife protection, and recreation, and by facilitating the movements of people, animals and plants, among other objectives (Hellmund & Smith 2006; Jongman & Pungetti 2004; Searns 1995). Further, the notions of land and resource stewardship are also integral components of this later generation of the greenway concept. Principles and recommendations contained in the President's Commission on American Outdoors report were considered by many authors to be a milestone in supporting and advancing the third generation of greenways in the US and Canada (Fábos 1995, p.1-2). For example, the Commission recommended the establishment of "greenways, corridors of private and public recreation land and waters, to provide people with access to open spaces close to where they live, and to link together the rural and urban spaces in the American landscape" (President's Commission on Americans Outdoors 1986, p.102). Moreover, the report contributed new ideas about the concept of greenways including that: greenways would: i) "Build partnerships among private enterprise, landowners, and local governments and groups in recreation and conservation"; ii) "Conserve elements of the great American Landscape, in all its diversity, and the full potential for human interactions with that heritage"; and iii) "Diversify and strengthen local economies and lifestyles through enhanced recreation opportunities" (President's Commission on Americans Outdoors 1986, p.103). Importantly, the potential of greenways to allow different users to experience and enjoy natural landscapes while practicing healthy activities along routes dedicated to non-

motorised and varied active modes of transportation was recognized (Flink et al. 2001; Mundet & Coenders 2010).

Greenways have continued to evolve in G3. Conservationists, social scientists, international organisations and civil society organisations have identified numerous associated benefits, namely: landscape connectivity, nature and biodiversity conservation, recreation, physical and mental health, environmental education and local economic development (Corning et al. 2012; Hellmund & Smith 2006; Jongman & Pungetti 2004; Lindsey et al. 2001). Moore and Ross (1998) claim that greenways and trails provide a wide range of benefits to society, especially to communities that live adjacent to them, including: access to alternative routes and modes of active transportation, local economic benefits through tourism activities, and an enhanced sense of place and local identity derived from connecting people with their heritage and historical places (benefits that are discussed further in Section 2.2). Arguments presented by Moore and Ross (1998) with regards to benefits associated with greenways and trails have received support from several sources, including Corning et al. (2012), Mundet and Coenders (2010), and Ottomano Palmisiano et al. (2016).

Another important aspect of today's greenways and trails is that they are increasingly designed and built for the people who use them, which means they must meet the needs of different users such as walkers, hikers, runners, road bicyclists, mountain bikers, equestrians, persons using wheelchairs, and others (Flink et al. 2001). This multi-purpose aspect of greenways has gained force with many having been implemented and several more under development in North America, Europe, Oceania (Ahern 2004; Jongman & Pungetti 2004; Mundet & Coenders 2010) and more recently, in Latin-America. This has fostered a new trend in greenways development, as an extension of G3, which I will call G3+, where nationwide interconnected multi-use, and multi-purpose greenways and trails network clustered under a single project and administered by one country are being developed,

representing a new stage in the evolution of greenways, both in terms of scale but also governance as shown in Figure 1.

In terms of scale, G3 greenways have been researched at local and metropolitan levels but under-researched at regional and sub national levels as mentioned earlier in section 1.1. However, G3+ has been not researched with the exception of the case of the republic of Singapore and its island/-wide network of greenways parks connectors (Qu et al. 2015; Tan 2006). A particular omission has been the lack of research on tracking or systematic evaluation of the development of G3+ projects over time, including the TCT and SDC.

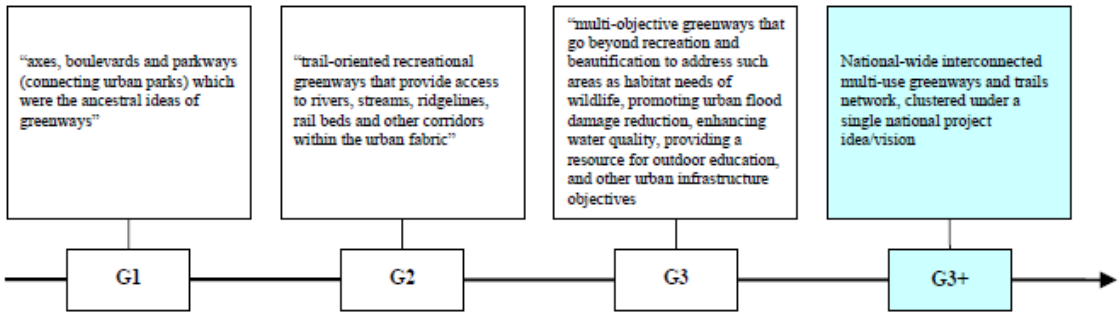

Fig. 1 Timeline of Greenway evolution

Source: adapted from Searns (1995)

2.1.2 Benefits and impacts of greenways and trails

As argued by Marsh (1994, p.3), greenways and trails provide a variety of "substantial and sustainable" benefits. These benefits can range from improvements in people's health, educational, environmental and cultural benefits, as well as an increase in people's social interactions and socio-economic development opportunities, among many others (Corning et al. 2012; Markeson 2007; Moore & Shafer 2001; Mundet & Coenders 2010; Ottomano Palmisano et al. 2016; Von Haaren & Reich 2006). These benefits and opportunities extend to people living in rural and urban areas as well as to tourists visiting these areas (Ottomano Palmisano et al. 2016). This is important to consider because, according to Mennella (2006), cited in Ottomano Palmisano et al. (2016), greenways not only work as physical landscape

connectors but at the same time, they provide the ability to connect other environmental, economic and social aspects and, consequently, can promote sustainable development for both rural and urban dwellers.

2.1.2.1 Health benefits (physical, mental)

Trailside living and trail use is associated with enhanced mental well-being and quality of life (Corning, 2012). Greenways and trails provide a venue where families, friends and neighbours can talk and foster their relationships (Corning, 2012). In addition to positive effects on well-being, trails can prevent obesity and associated illnesses by acting as an accessible site for exercise (Lake 2013, Mundet & Coenders 2010). Hence the accessibility of trails is important and often tied to official public policy on health and wellness. For example, the federal government in the US is mandated to encourage healthy living (Lake 2013) while the Public Health Agency in Canada promotes leisure-time physical activity and active transportation associated with the creation of healthy built environments, including parks and schools (Public Health Agency of Canada 2015) as well as green infrastructure associated with greenways and trails (Austin 2014). A similar situation occurs in Chile where the Health Ministry promotes healthy living through healthy community programs that focus on building healthy environments such as parks, bike paths, and other types of green infrastructure (Ministerio de Salud 2015).

2.1.2.2 Social benefits

Using greenways as gathering places can improve community cohesion as they give people more opportunities to meet and share their interests and values (Brasier 2011; Corning et al. 2012). In other words, and as argued by Ahern (2004), greenways can work as social networks for users, and also serve to enhance political networks by integrating stakeholders and their different perspectives about greenway land use planning and management. This can improve the way in which local and higher level planning is coordinated and thus motivate a

new generation of partnerships and collaborations between stakeholders from different sectors and levels (Ahern 2004). Additionally, community connection through shared interest in a single space can create a sense of pride and empowerment (Brasier 2011, Moore & Ross 1998). By developing a greater sense of community, greenways can become a source of altruism amongst neighbours (Brasier 2011).

2.1.2.3 Economic benefits

Trails can stimulate the economy by boosting tourism, raising the property value of surrounding properties, and raising tax revenues (Moore & Ross 1998; Nicholls & Crompton 2005). Additionally, trails and greenways are less costly to the public in terms of maintenance, utilities and waste disposal than many commercial or residential forms of development would be (Ahern 2004; Moore & Ross 1998), and often serve more objectives in terms of local economic development (Rails to Trails Conservancy 2003). In the context of countries aiming to stimulate a stagnated economy, especially boosting local economic development (e.g. Canada, USA, Romania, among others), the recreational spending and tourist draw of trails and greenways offers potential for economic growth in a sustainable form (Rails to Trails Conservancy 2003; WWF 2008).

2.1.2.4 Environmental benefits

Environmental protection is a key aspect of the current greenway concept (Jongman & Pungetti 2004; Moore & Ross 1998). As greenways and trails networks can connect urban and peri-urban open green spaces, they contribute to the "protection of natural habitat; for example the establishment of a green network, providing places for birds to nest, etc" (Azadi 2011, p.790). In addition, in conserving often large corridors of land, greenways and trails network provide ecosystem services such as flood mitigation through increased rain water absorption, enhanced air quality and environmental education (Ahern 2004; American Trails 2011; Azadi et al. 2011; Brasier 2011).

A World Wildlife Fund (WWF) project described the combination of benefits (environmental and local economic development) provided by greenways and trails in the Maramures, Romania in 2008. The project, called "Maramures: a WWF One Europe, More Nature Pilot Project Site", had two main objectives. The first aimed to protect and restore a mosaic of semi-natural sites rich in biodiversity (mainly grasslands), while the second aimed to increase the income of local residents and farmers (WWF 2008). In order to achieve the above objectives, the WWF designated, among other mechanisms, a new European Union Natura 2000[9] site and a Greenway trail for ecotourism development and other uses in this area (WWF 2008).

To conclude, two quotes are provided below that reflect and summarize key points about the multiple benefits and opportunities of greenways and trails, as presented in the literature:

> "Long distance trails can provide recreational opportunities for many people, economic stimulus for neighbouring communities, education and research opportunities for students and academics, and lifelong activity that is both healthy and free for everyone" (Judkins 2015, p.5).

> "Research suggests that the benefits from trail and greenway resources extend from the individual experience as it relates to personal recreation and health, to the wider community through reduced automobile traffic, enhanced visual quality, conservation of natural values, economic development and others" (Moore & Shafer 2001, p.1)

2.2 Factors influencing greenways planning

This section provides an overview of the greenway planning literature with respect to some of the factors that influence greenway network implementation. Connections to other

[9] EU Natura 2000 is an EU wide network of nature protection areas established under the 1992 habitats directive http://ec.europa.eu/environment/nature/natura2000/index_en.htm

bodies of literature associated with these factors, particularly governance, participation, co-management, adaptive management and land ownership are also made.

As described at the end of section 1.1, notwithstanding the research on greenway planning represented within four special journal issues on the topic, very limited attention has been given to greenways and trails networks at national scales and almost none to factors influencing the planning at this level. Of that research, the work conducted by Erickson (1997, 2004) has been most valuable for my research for three reasons: i) because her work has been recognised by key authors in the greenway planning literature, namely Julius Fábos and Robert Ryan who refer to it as "one of the few studies on collaborative greenways" (Ryan et al. 2006, p.173); ii) because Erickson's research focuses on the implementation of metropolitan greenway networks included comparative cases studies from the US and Canada focused on themes related to governance (institutional structures), funding, policy frameworks and management, and iii) because she has been recently cited in peer received articles about the relationship of greenways and sustainable development, and her association with research about comprehensive greenways systems and networks at urban and regional scales (Ottomano Palmisano et al. 2016). Given the attention Erickson's comprehensive greenways systems are receiving, I draw upon her work to introduce the factors influencing greenway planning.

Erickson (1997) analysed 7 case studies of metropolitan greenway network projects and plans in Canada (1[10]) and the US (6[11]) in order to determine the institutional structures that facilitate implementation, how the public participates, and the conflicts and barriers encountered in the implementation process. Erickson found that institutional structures, ownership, management and the extended timeframe required to realise these initiatives are

[10] Lake Ontario Greenway Strategy 1995

[11] Greenways for the SE Tennessee River Valley 1995; NE Illinois Regional Greenways Plan 1992; Indianapolis Greenway Plan 1994; Maryland Greenways Atlas 1992; Minneapolis (no project's or plan name) and Metropolitan Greenspaces Master Plan 1992.

important factors influencing this scale of greenway implementation. Erickson (2004) subsequently analysed greenway implementation in relation to two case studies in Milwaukee, Wisconsin (US) and Ottawa, Ontario (Canada).

In regards to institutional structures, Erickson (1997, 2004) found that both the policy and legislative environment, and strong leadership were important to initiate and expand the greenway movement. She argued that leadership should be accompanied by clear ideas about the benefits that open space connectivity provides towards community health (Erickson 2004). She also noted that the adoption of a greenway plan itself, either into a legal framework or as a regional guideline, facilitates implementation. Regardless of the institutional structure, according to Erikson (1997, 2004) coordination among stakeholders and inter-governmental cooperation are important factors for effective greenway implementation. The need for building collaborative partnerships and trust between stakeholders was also supported by Ryan and Hansel (2004) who addressed issues related to the protection and management of private farmland and public greenways in the context of the Connecticut River Greenways State Park in Massachusetts, US at metropolitan and town levels. According to Rottle (2006), the importance of partnerships and collaboration between different stakeholders is key for bridging organisations to sustain the development of greenways. Additionally, according to Searns (1995), coordination between agencies is a critical factor in the development of Generation 3 greenways. More specifically, Searns (1995) argues that partnerships among governmental agencies, citizens groups and the private sector represented by corporations and business can be valuable.

Even though there is no peer reviewed literature on G3+ greenway projects, like TCT and SDC, that support the above findings at the national level, there is literature on greenway planning at smaller scales – as previously described – together with literature on natural resource governance which is consistent with the finding that governance considerations

come into play whenever a community, a government agency or other groups of stakeholders need to reach agreement and coordinate on the protection or use of resources (Berkes 2009; Institute on Governance 2011).

2.2.1 Governance

As noted above, governance arrangements affect greenways planning (Erickson 1997, 2004; Rottle 2006; Ryan & Hansel 2004; Searns 1995). Defining governance is not a simple task. A review of the relevant literature on governance indicates several interpretations of term depending on the context in which it is used (Brechin et al. 2002; Rhodes 1996; Stoker 1998). Literature with the field of conservation tends to apply the term governance, broadly, in reference to "arrangements for decision making and power sharing" Brechin et al. (2002, p.46). According to Stoker (1998, p.17), "Governance is ultimately concerned with creating the conditions for ordered rule and collective action". Rhodes (1996, p.653) argues that governance processes work as inter-organisational networks that provide the means for "authoritatively allocating resources and exercising control and coordination". Based on the literature reviewed, most definitions of governance include the following three dimensions: authority, decision making and accountability (Bramwell & Lane 2011; Brechin et al. 2002; Institute on Governance 2011; Rhodes 1996).

Brechin et al. (2002, p.46) identify important questions for understanding the social and political processes relevant to governance in biodiversity conservation. These include: "Who decides? Based on what authority? What are the ground rules for decision making? How will decision makers be held accountable? How will decisions be enforced?" Ribot (1999, 2000) reminds us that when governance structures are built, stakeholders should consider the type of jurisdiction within which projects are rooted. Another important issue concerning governance relates to the diversity of stakeholders and the power dynamics that

attend to their cultural, ethnic, gender and class differences (Brechin et al. 2002; Goodwin & Painter 1996).

In the case of projects involving interdependent stakeholders from different sectors (public and private) and levels (municipal, regional, provincial, federal and/or national), such as networks of greenways at national levels, it is necessary to regulate the activity between those actors (Lockwood 2010). For this, according to Lockwood (2010), various mechanisms are required to facilitate decision-making and the solving of problems that arise between actors. As Lockwood (2010, p.988-989) argues, collaborative governance can "integrate and coordinate decision-making, including multi-level, multi-sectoral and multi-organizational partnerships, "join up" government, and political networks".

According to Castree et al. (2013), partnership is defined as “a mode of governance wherein different parties negotiate an agreed settlement with respect to social and economic conditions over a set period of time and work together for mutual benefit”. On the other hand, collaboration is defined by the Oxford English Dictionary (2016) as the “act of working with another person or group of people to create or produce something”. As pointed out by Hemmati (2002, p.54-55), partnership “needs to based on trust, respect, equality, reciprocity, mutual accountability and mutual benefits” in order to be sustained over time while collaboration is about “working jointly with others or together especially in an intellectual endeavour and to cooperate with an agency or instrumentality with which one is not immediately connected”. According to Ansell and Gash (2008, p.4) “collaboration implies two way communication and influence between agencies and stakeholders and also opportunities for stakeholders to talk with each other”. Based on these definitions, it can be deduced that concepts of partnerships and collaboration are closely linked.

The 1990s marked the emergence of hybrid, multi-level and cross-sectoral forms of environmental governance; that is, governance influencing environmental actions and

outcomes (Lemos & Agrawal 2006). Three major forms of collaboration are generally recognised: "co-management (between state agencies and communities); public-private partnerships (between state agencies and market actors); and private-social partnerships (between market actors and communities)" as shown in Figure 2 (Lemos & Agrawal 2006, p.311).

As mentioned earlier, several authors have argued and supported the idea that effective coordination and collaboration between different stakeholders from different sectors and levels is key for the implementation of greenways (Erickson 1997, 2004; Rottle 2006; Ryan & Hansel 2004; Searns 1995). The literature on governance confirms this view. Specifically regarding greenways, several authors note the importance of collaboration and partnerships for their success. For example, Flink and Searns (1993) noted that public-private partnerships are an efficient way to create greenways. He also observed (Searns 1995) that coordination amongst various stakeholders is key in achieving the multiple objectives of Generation 3 greenways and also notes that partnerships between citizens, companies, corporations, and the public sector lead to success. Similarly Ahern (1995) asserted that because greenways are multi-purpose, their planning requires multidisciplinary engagement and high levels of public involvement.

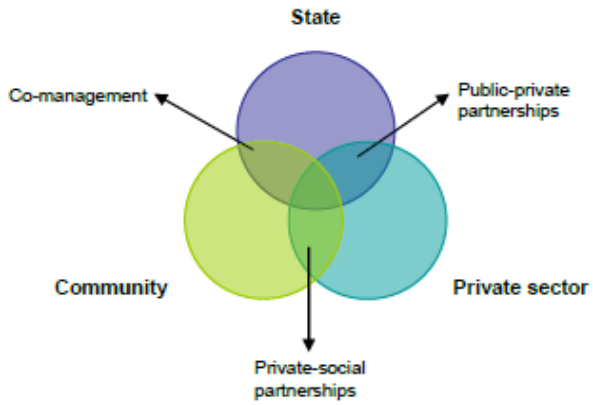

Fig. 2 Hybrids forms of environmental governance

Source: adapted from Lemos and Agrawal (2006, p.310)

2.2.2 Co-management

The term 'co-management' can be traced back to the 1970s when it was first applied in the management of the salmon fisheries industry in the US (Berkes 2009). By the early 1990s, co-management or collaborative management was increasingly applied in protected areas and wildlife management both as a concept that reflected growing interest in the sharing of rights and responsibilities associated with managing natural resources (Berkes 2009; Plummer & FitzGibbon 2007) and as a response to the limitations of 'top down', centralised resource management approaches, also known in the literature as "command and control" approaches (Armitage et al. 2007; Holling & Meffe 1996).

Similar to the concept of governance, the literature offers several definitions of this hybrid form of governance (Berkes 2009). Armitage et al. (2007, p.3) provide four definitions of co-management by different authors that contribute to our understanding of the term: i) "A political claim [by users and community] to share management power and responsibility with the state" (McCay & Acheson 1987, p.32); ii) "The sharing of power and responsibility between the government and local resource users" (Berkes et al. 1991, p.12); iii) "Power-

sharing in the exercise of resource management between a government agency and a community organization of stakeholders (Pinkerton 1992, p.331); and iv) "A partnership in which government agencies, local communities and resource users, NGOs and other stakeholders share…the authority and responsibility for the management of a specific territory or a set of resources" (IUCN 1996). According to the World Bank (1999, p.11), co-management can be equated with the "institutionalisation of collective action" of multiple stakeholders which includes actors that are outside and above the local community, Figure 3.

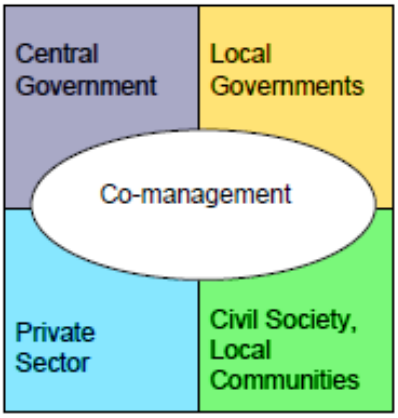

Fig. 3 Key Stakeholder categories and co-management
Source: adapted from The World Bank (1999, p.11)

2.2.3 Public Participation

The importance of public participation has become increasingly recognised since the 1970s when development organizations acknowledged that projects were failing to achieve their objectives because of a lack of involvement of project beneficiaries (El-Gack 2007). Since then, participation has become a central consideration in most development discourses (Michener 1998), as well as in natural resource management (Batra 2006; Cohen & Uphoff 1980; Mannigel 2008) and in the long term success of the planning and implementation of

protected areas (Mannigel 2008; O' Riordan & Stoll-Kleemann 2002). As White et al. (1994 p.16, cited in Michener 1998, p.2105) stated:

> "The euphoric word 'participation' has become part of the development jargon. No respectable project can not use this 'in' word now, nor can it get funded without some provision for the participation of the people".

Participation refers to the involvement of the 'public' in decision making, especially about policies that will affect people directly (Burns et al. 2004a; Forgie et al. 2001; Johnston et al. 1986). Govan et al. (1998, p.1) state that participation is "empowering local people to mobilize their own capacities, be social actors rather than passive subjects, manage their own resources, make decisions and control the activities that affect their lives". Similarly, Burns et al. (2004a, p.2) propose that community participation "concerns the engagement of individuals and communities in decisions about things that affect their lives".

According to Forgie et al. (2001), participation is believed to encourage citizens and communities to work together with the aim of achieving goals broader that the ones they can achieve individually. Participation is not an experience "to be imposed on the public" but is an organic process in which planners and members of the public develop a mutually beneficial relationship (Dugdale & West 1991, p.58). This process should not only be responsive to the particularity of each community but, more importantly, it should be designed with the community (Dugdale & West 1991). In this way, according to Dudgale and West (1991, p.58), public participation becomes:

> "…a two way process of communication between planners and the community that promotes the exchange of information and ideas and seeks joint problem solving and the resolution of conflict in order to produce plans and policies that are acceptable to the community and which can be effectively implemented".

According to Howard and Baker (1994), the benefits of participation to a project, program or policy can be understood from two different points of view. On the one hand, people's participation is important for the organization leading a project because it can help the organization in achieving its objectives. When people have had the opportunity to assist in project planning, the resultant project will be more likely to produce changes that are acceptable to community members (Howard & Baker 1994). From the participant's point of view, participation can improve knowledge, self esteem and collaboration between participants (Howard & Baker 1994). As Howard and Baker (1994, p.67) state, "People continuously learn through their own direct and indirect participation; they become more skilled, knowledgeable and creative in problem solving".

Critics of participatory practices warn that this term is vague and does not indicate the range of actors involved or their level of involvement. In many instances genuine participation is not achieved (Booth & Halseth 2011). In 1969, Sherry Arnstein, a health policy specialist, addressed the topic of participation by presenting a "ladder of citizen participation", Figure 4, which identified several different levels of participation, from manipulation to genuine participation. Only three of a total of eight rungs in her ladder are considered to be genuine forms of citizen participation; partnership, delegated power and citizen control (Arnstein 1969). Booth and Halseth (2011, p.899) remarked that despite forty years of research and practice there is still no clear understanding in the literature of what "good" public participation really means. They also point out that in North America many public participation processes are associated with Arnstein's six bottom ladder steps (1-6) and that only in sporadic and isolated cases have the two upper steps of the ladder (delegated power and citizen control) been achieved. Moreover, Booth and Halseth (2011) argue that very few studies have considered how participants perceive the participation process.

Canada is not widely regarded to be a leader in public participation processes. This is especially true regarding natural resource decisions. According to Sheppard (2005, cited in Booth & Halseth 2011, p.899):

> "In Canada, public participation processes in natural resource decisions have had a limited value, given the preferred use of more "traditional" methods of public engagement, such as open houses and public comment periods, which results in low public satisfaction with process and outcome, a result confirmed by other researchers (Chambers & Beckley 2003; De Marchi & Ravetz 2001; Duinker 1998)."

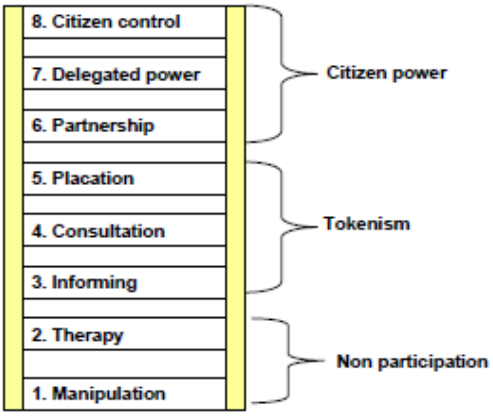

Fig. 4 Ladder of participation
Source: Arnstein (1969, p.217)

A general consensus within the literature has emerged around the key principles that support participation (Dugdale & West 1991; Govan et al. 1998; Mitchell 1997). According to Dugdale and West (1991), it is important to begin participation at the earliest stage of the planning process, so that participants can influence policy by sharing valuable local knowledge and experiences with other actors involved in the process. Early involvement can also foster cooperation among participants (Dugdale & West 1991). Participation should be established as a cooperative and collaborative process among participants. Finally,

participation should be active, providing space for participants to discuss ideas and contribute solutions to problems that could affect their lives (Dugdale & West 1991).

Mitchel (1997) identified the following set of key principles for successful participation: i) sharing of benefits to all participants: benefits should be fairly distributed to ensure that partnerships and alliances between participants can be sustained over time; ii) adaptability: partners should be flexible to changing circumstances; learning from experience and sharing knowledge is crucial for adapting strategies in shifting scenarios; and iii) time and perseverance: projects sometimes have their problems and barriers that can slow down the progress of events and thus frustrate participants; patience, integrity and perseverance combined with trust and respect can help to overcome difficulties.

Section 2.1.2 outlined the benefits stakeholders can expect to gain from greenways and trails development. Greenways built involving stakeholders in all stages of implementation will result in spaces that provide the benefits most desired by the community (Randolph 2004 in Brasier 2011). Equitable and active participation can provide educational opportunities for participants/stakeholders where they can recognize these benefits (Brasier 2011). After inception, an engaged community is paramount to the success of greenway development and management.

2.2.4 Adaptive management

The time-consuming nature of greenway initiatives requires flexible management techniques that are sensitive to changing environmental, social and political conditions (Erickson 1997; Olsson et al. 2004). According to Armitage et al. (2007, p.328), adaptive management can be defined as "a strategic learning-by-doing or quasi experimental approach to the management of natural resources encouraged by institutional flexibility". Adaptive management, as a learning-based approach, involves iterative learning processes from the implementation of plans and policies which aim at improving management practices by

adapting these to changes in the face of uncertainty (Allan 2007; Armitage et al. 2007). Learning-based approaches have emerged in the arena of environmental management as a way to deal with environmental uncertainty (Berkes 2009). This circular, dynamic and learning-by-doing process has been conceptualised as follows (Allan 2007) in Figure 5.

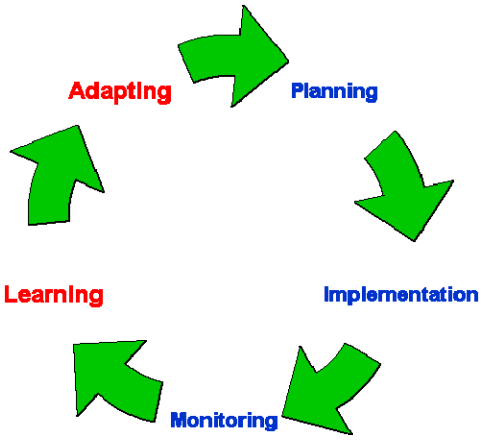

Fig. 5 Conceptualisation of adaptive management
Source: adapted from Allan (2007, p.2)

Adaptive management and co-management are linked in the concept of adaptive co-management (Armitage et al. 2007). Adaptive co-management is the combination of user participation in decision making and the linkages between a diverse set of stakeholders operating at different levels (local users, municipalities, provincial, federal national institutions, etc.) of co-management and the iterative learning-by-doing dimension of adaptive management (Armitage 2007; Olsson et al. 2004). Armitage et al. (2007, p.5) provide three definitions of adaptive co-management by different authors to clarify the meaning of the concept: i) "A long-term management structure that permits stakeholders to share management responsibility within a specific system of natural resources and to learn from their experience (Ruitenbeek & Cartier 2001, p.8)"; ii) "A process by which institutional arrangements and ecological knowledge are tested and revised in a dynamic, on-going, self-

organised process of learning by doing (Folke et al. 2002, p.20)"; and iii) "Flexible, community-based systems of resource management tailored to specific places and situations, and supported by and working with various organizations at different scales (Olsson et al. 2004, p.75)".

> "Co-management can be considered a knowledge partnership. Different levels of organization, from local to international, have comparative advantages in the generation and mobilization of knowledge acquired at different scales. Bridging organizations provide a forum for the interaction of these different kinds of knowledge, and the coordination of other tasks that enable co-operation: accessing resources, bringing together different actors, building trust, resolving conflict, and networking. Social learning is one of these tasks, essential both for the co-operation of partners and an outcome of the co-operation of partners" (Berkes 2009, p.1692)

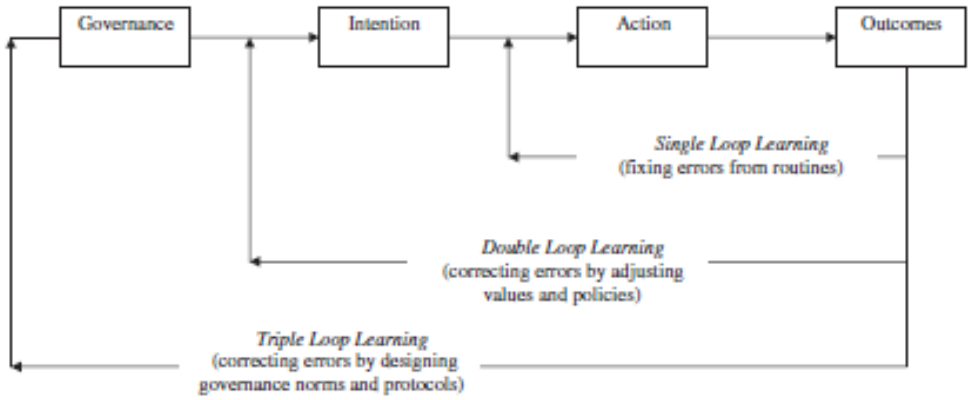

Fig. 6 Conceptualisation of adaptive management
Source: Armitage (2008, p 89)

2.2.5 Land Ownership

According to several authors, land ownership (public or private) is a key factor to consider when planning and/or implementing a greenway or trail (Markeson 2007; Conine et al. 2004; Van Haaren 2006). As Markeson states (2007, p. 1496), the two biggest challenges when considering the construction or modification of a greenway or trail "are garnering

community support, particularly from landowners adjacent to a proposed project, and acquiring land requisite to building the greenway". These two factors are closely connected. According to Markeson (2007), those who own the land adjacent to these projects may oppose them, or they could be their greatest allies. This depends on how the project is understood and valued by the landowners.

According to Conine et al. (2004), lands that are publicly owned are preferred over private property for the purposes of planning greenway projects. This is due to the fact that when planning public land use there are fewer actors and institutions that have to interact and coordinate with each other, i.e. mayors, municipalities, etc. Contrarily, when these kinds of projects are planned for privately owned land, the number of people who must be convinced and involved in negotiations and coordination increases and becomes more complex since the interests of distinct private actors may be quite varied. The aforementioned is consistent with Markeson's assessment (2007, p.1499) as stated here:

> "Greenways, recreational trails, and linear parks present unique land acquisition problems. Due to the necessarily contiguous nature and the length of a functional trail, the local government must coordinate a large number of landowners during the land acquisition process. A holdout, "a single dissenting landowner" who breaks the trail connection by refusing to sell, can destroy an entire project"

Chapter 3. Methodology

This study involves the examination of two case studies; the TCT and the SDC. The research was undertaken between 2012 and 2016 using qualitative methods directed to: i) providing a comprehensive account of the development and evolution of the TCT and SDC national greenways and trail networks; and ii) identifying the factors that support and facilitate collaboration and partnerships between multiple stakeholders, as described in section 1.2 (research statement and research question).

The research for this thesis employed several methods, including document analysis, semi-structured key informant interviews and mapping. As argued by Creswell (2007, p.40), researchers use qualitative methods when they "want to understand the context or settings in which participants [organisations] in a study address a problem or an issue". Qualitative methods are usually better suited to providing a detailed understanding of processes as well as subjective descriptions of how these processes are interpreted and felt by varied actors (Denzin & Lincoln, 2005 in Creswell 2007).

3.1 Data collection

This study involved the examination of official documents, such as annual reports, website information, newspaper articles, audiovisual promotional material, memoranda of understandings (MoUs) and partnership agreements with different stakeholders involved with these projects, including government agencies and associated ministries, foundations, corporations, and associations.

These sources of information were complemented and elaborated upon by eleven semi-structured interviews conducted by the author; six in Canada and five in Chile. Nine interviews were conducted face to face while two were completed over the Internet via Skype

and telephone. Interviewees were selected using purposive snowball sampling to achieve representation of stakeholders involved (Hay 2000; Patton 1990).

The interview duration varied for the different interviewees/informants. The interviews lasted one hour on average. Below I present a list of the selected informants for this study together with a brief summary of their positions and responsibilities at the time of their respective interviews.

The five informants are directly connected to the SDC project under one or both of its different administrative arrangements (i.e. initially CONAMA and later the SDC Foundation). The following individuals were interviewed and are named below with their full permission

1. Sebastián Infante
Position at the time of the interviews: Executive Director of the SDCF
Interviews (in-person) were made in Santiago de Chile. The first interview was made, in November 2012 and the second one in February 2016.
2. Esteban Delgado.
Position at the time of the interview: Development and Project Manager of SDCF. He was also one of the former national coordinators of SDCP. Interview was made by Skype from Montréal in April 2013.
3. Angel Lazo
Position at the time of the interview: Head of the Public Use and Park Rangers of the Department of Protected Wildlife Areas Management of the Chilean Forestry Agency (CONAF). Interview (in-person) was made in Santiago, Chile in November 2012.
4. Luís Martinez
Position at the time of the interview: Agricultural engineer SYNERGY C&C. Martinez's former position (1995-2010) was National Manager of Rural Tourism Development of the Institute of Agricultural Development (INDAP). Interview (in-person) was made in Santiago, Chile in October 2012.
5. Pamela Fernández
Position at the time of the interview: Department of Private Protected Areas Officer / Division of Natural Resources and Biodiversity of the Ministry of Environment. Interview (in-person) was made in Santiago, Chile in November 2012. Fernandez's former position was head of the heritage unit of the ministry of national assets.

The first three (6, 7 and 8) of the six informants for the TCT project are directly connected to it. The others (9, 10 and 11) are indirectly connected to the project.

6. Jane Murphy
Position at the time of the interview: National Director of Trails (TCT management team).Interviews (by Skype) were made from Montreal. The first in April 2013 and the second one in May 2013
7. Charles Roy and Crystin Edwards

Position at the time of the interview: GIS and Mapping Managers (TCT management team). Interview (in-person) was made in TCT Montreal Headquarters in May 2013.

8. Richard Senécal

Position at the time of the interview: Executive Director of Conseil Québécois du Sentier Transcanadien (TCT Québec). Interview (in-person) was made at Concordia University in August 2013.

9. Joseph Licata

Position at the time of the interview: General Director of the Parc Lineaire P'tit Train du Nord Corporation (LP-PTDN). Interview (in-person) was made LP-PTDN in Sainte Adele, Laurentides, Québec in September 2013. Note: The LP-PTDN is part of the Vélo Québec's Route Verte and the TCT national network.

10. Jean-Francois Pronovost

Position at the time of the interview: Vice-President Development and Public Affairs of Vélo Québec and the Route Verte. Interview (in-person) was made in Vélo Québec Montreal Office in July 2013. Note: Vélo Québec's Route Verte has a partnership agreement with the TCT Québec.

11. Chantal Ladouceur

Position at the time of the interview: Landscape architect Regional County Municipalities (RCM) des Pays-d'en-Haut in charge of the recreation development of the RCM who works closely with the LP-PTDN Corporation. Interview (in-person) was made LP-PTDN in Sainte Adele, Laurentides, Québec in November 2013.

With respect to the analysis of the interviews conducted in Chile, these were transcribed in Spanish and then coded using approaches developed by Auerbach and Silverstein (2003), Day (2003) and Patton (1990) to qualitative coding and analysis. The interviews conducted in Canada were transcribed in English and then coded using the previously mentioned techniques. An overview of the methodological approach is shown in Figure7 below.

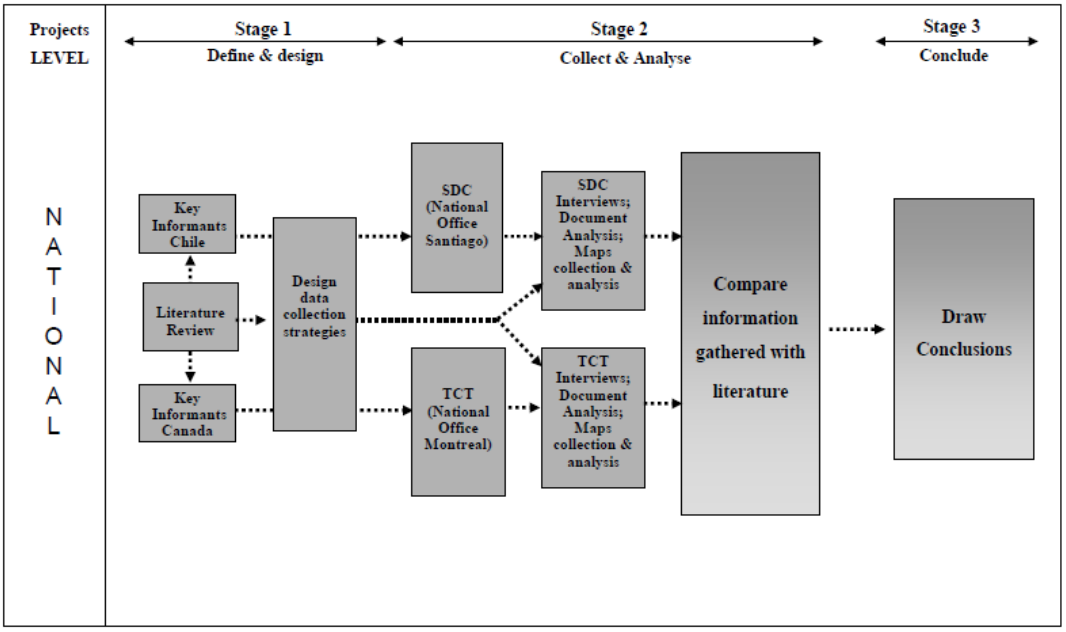

Fig. 7. Methodology scheme for different stages and levels of this research

Source: own elaboration

3.2 Data analysis

According to Patton (1990), the challenges of research are firstly simplifying so as to make sense of the complexity of enormous amounts of data. Secondly, to reduce the amount of information by identifying the core content of interviews, observations, documents, and finally, constructing a framework to communicate the findings (Patton 1990). Based on Dey's work (2003), data analysis is an iterative cyclical process that involves describing a phenomenon, classifying it and connecting concepts and information as shown in Figure 8.

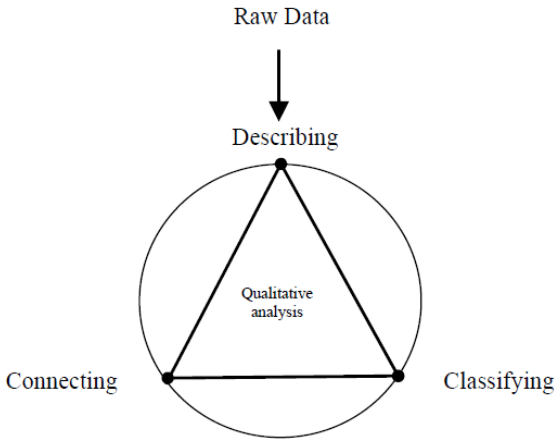

Fig. 8 Qualitative analysis as a circular process
Source: Dey (2003, p.32)

Coding of documents and interviews was conducted following the approach of Auerbach and Silverstein (2003) which consists of an iterative process of four steps. The first step was to select relevant text which relates to the research questions; this consisted of literal passages, from the reviewed documents and the interviews transcripts. For this selection I used the coding notes approach (Patton 1990) that entails making comments in the margins of the transcripts and identifying relevant text (example in Figure 9). This relevant text was then pasted into an Excel spreadsheet that was used for the next steps in the coding procedure. The second step was to identify repeating ideas that consisted of phrases from the selected relevant texts that were repeated in at least two documents / interview transcripts. These repeating ideas were then grouped into themes which are common subjects that cluster repeating ideas. Finally, themes were organized into theoretical constructs which responded to the research questions; for example, the factors identified in chapter 5. This process was repeated until saturation of the information, when the addition of new research samples did not provide new information, was reached (Auerbach & Silverstein 2003).

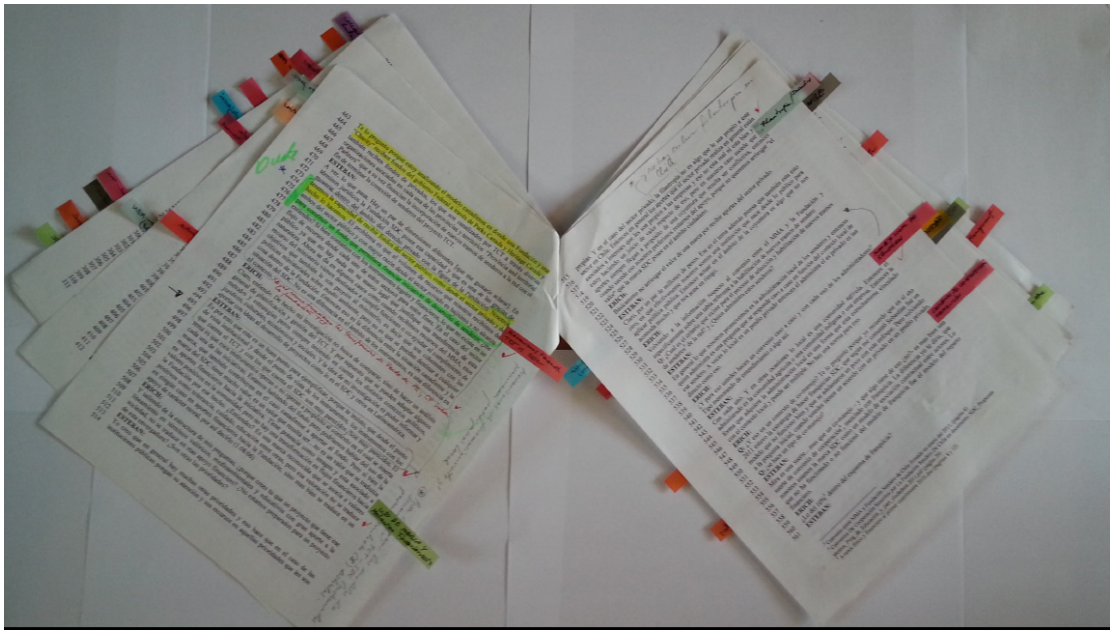

Fig. 9 Comments in the margins of the transcripts

Source: author

Once theoretical constructs were identified I also conducted a connection exercise that involved identifying relationships and associations between the categories identified, and then creating a hierarchy of themes and sub-themes/ categories (concept map) that provided a logical relationship between these themes/categories (Dey, 2003) as shown in Figure 10.

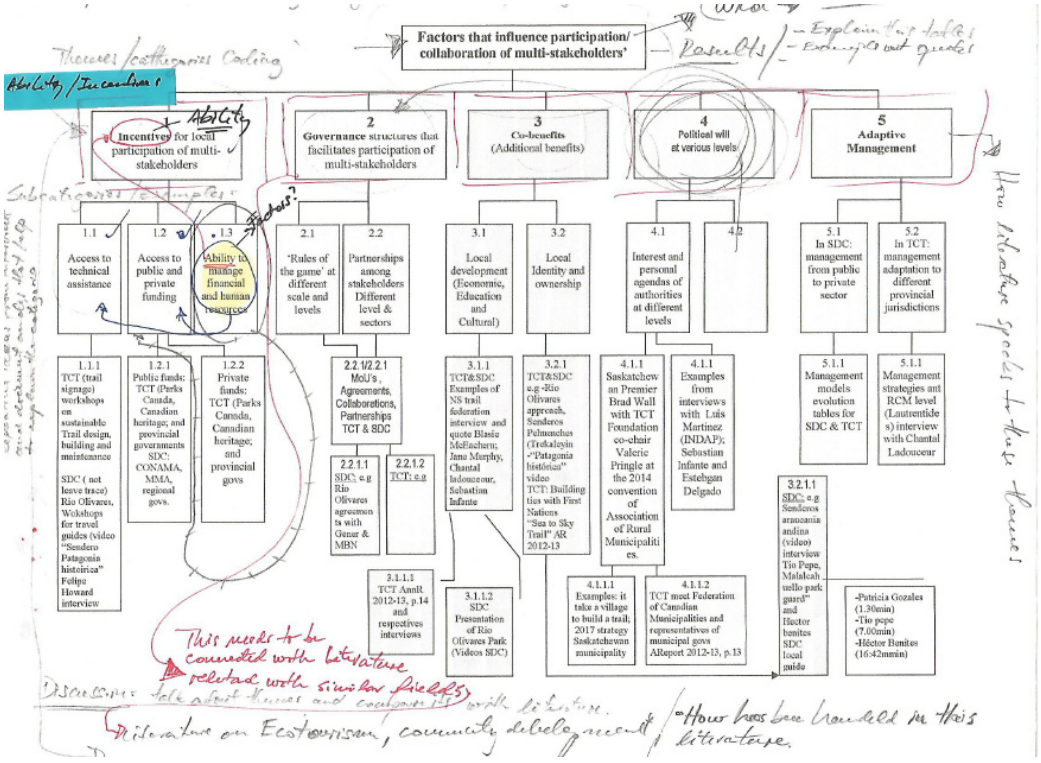

Fig. 10 Process of identifying relationships and associations of categories identified
Source: author

3.3 Document analysis

Document analysis in stage 2 was based mainly on the examination of official publications, such as annual reports, program records, and correspondence. The analysis of annual reports and program documentation was important for two reasons: i) they provided basic information about project background, goals, decisions, and processes; and ii) they provided guidance in developing questions for follow up during the interview stage. However, as Patton (1990) reminds us, a review of program documents can be subject to a variety of inaccuracies. Some documents might be selective in the type of information presented about the program, such as the presentation of only positive aspects. The present study utilized data collected from official documents and websites from both the TCT and SDC while remaining alert to the possibility of bias within these sources. This study also utilized information provided by government agencies associated with these projects, such as Parks Canada and

the Ministry of Canadian Heritage in the case of the TCT, and the Budget Directorate (DIPRES, for its acronym in Spanish) of the Ministry of Finance[12], the Ministry for the Environment[13] and the Ministry of National Assets[14] in the case of SDC.

3.4 Semi-structured interviews

An important source of data for this research was collected using semi-structured interviews conducted in Stage 2. Interview guides were organised around several ordered but flexible questions (Hay 2010). During the interviews process, questions were focused on important issues or themes identified by the researcher (Hay 2010; Patton 1990). The selection of participants for both the Canadian and the Chilean case study was conducted using purposive sampling methods, particularly snowball or chain sampling (Hay 2010; Patton 1990). According to Patton (1990, p.176) snowball sampling " is an approach for locating information-rich key informants or critical cases. The process begins by asking well-situated people: Who knows a lot about____? Who should I talk to?" In the process of asking a number of people who else to talk with, the sample of cases increases while the study continues.

A combination of audio recording and note taking was used for each interview. The former was the preferred method because audio recording allows for a more natural conversation style and also gives the interviewer time to organise the next question (Hay 2010). However, note taking can record non-audible information such as gestures and body language and thus the combination of both methods can provide a more comprehensive record of the interview (Hay 2010). Once interviews were completed they were transcribed as soon as possible in order to reconstruct the interview with the most detail possible (Hay 2010).

[12] Ministerio de Hacienda
[13] Ministerio del Medio Ambiente
[14] Ministerio de Bienes Nacionales

Analysing interviews aims to uncover the meaning of the collected data, by constructing relations and patterns between variables through content analysis (Hay, 2000). According to Patton (1990, p 381) “content analysis is the process of identifying, coding and categorising the primary patterns of the data”. As mentioned by Hay (2010, p.125) there are two types of content analysis: a) manifest content analysis that assesses visible and tangible information of an interview transcript; e.g. number of times a single word repeats in the document; and b) latent content analysis that involves the assessment of the underlying meaning of what was said in the interview. Both types were applied in the present study.

3.5 Research limitations

One of the early challenges of this study was the difficulty faced in obtaining the appropriate permissions in order to begin the interview process with key TCT project informants (management team and members of the foundation's board of directors). This process took about 8 months. In addition to the delay getting approval to start the interview process, I was unable to get access to some of the TCT project's key informants. While efforts were made, consistent with my original intention, to include the voices and perspectives of local people (e.g. trail builders’ organisations) it proved difficult to get permission to do these interviews. I also was concerned, given these difficulties, that I would not have a representative sample of local perspectives and would not therefore be able to adequately reflect the diversity of people and perspectives working at the local level across the country.

With regards to accessing information and in spite of the fact that a large part of it is available on the foundation's website, there were some documents that I was unable to acquire.

The difficulties and challenges associated with the SDC project were different. The limitations were primarily related to obtaining updated information about progress and growth

in the trail network over time. This holds particularly true for the maps of path details in each of the areas where the project has been focusing its efforts over time.

Lack of data on private and public land

Despite assistance from Alex Guindon, Concordia's GIS and data service librarian, I was unable to find a national map showing the distribution of Canadian public (federal and provincial) land. There is cartographic information available on federally owned land (data sets from Geo Gratis link on the Natural Resources Canada Website) which is essentially comprised of National Parks, National Park Reserves, National Marine Conservation Areas and Aboriginal Land Claims Settlement Areas (Guindon A., 2014 pers. comm., Natural Resources Canada 2014). However, for the rest of Canada's provincial crown land it would be necessary to contact each province in order to obtain a map or a dataset. Moreover, the datasets available for the public are not all complete as is the case in Québec's Ministry of Natural Resources website, where they present maps of Québec's publicly owned land[15] only for certain regions such as: l'Abitibi-Témiscamingue, de la Côte-Nord, de l'Outaouais, de la Mauricie et du Saguenay–Lac-Saint-Jean. Furthermore, the TCT project does not have information with regards to property distribution (public and private) across the country (Roy C., 2013 pers. comm.). Therefore, it is not possible to see, based on cartographic data, if the TCT has expanded more quickly over public or private land over time.

[15] https://www.mrn.gouv.qc.ca/territoire/planification/planification-affectation.jsp

Chapter 4. Tracking the TCT and the SDC over time

This chapter provides a detailed account of the planning and implementation processes of the two projects examined in this thesis. Each project is analyzed in relation to its respective background, initial motivation, goals, organizational structure and governance, trail network development status and its challenges and opportunities.

These two case studies were selected because of parallels between both projects, especially concerning the initial motivation of these two initiatives. The TCT and SDC both began as projects to commemorate important dates for each country. In the case of Canada, the TCT was selected as a legacy project in association with the commemoration of the 125th anniversary of the Canadian confederation. Similarly, the SDC was conceived as the most ambitious of several bicentennial projects created to commemorate 200 years of independence of Chile from Spain. Additionally they have a shared ideal of integration and connectivity, with each project linking their respective human populations, cultures and identities through these nationwide networks of multi-use greenways and trails. In this sense, both initiatives were initially planned as a strategy to connect people and their communities. In the case of TCT, connecting Canadians "from coast to coast to coast" draws upon a phrase rooted in the idea of one united Canada expressed by former Canadian Prime Minister, John Diefenbaker (1957-1963) (Plamondon 2009). In the case of SDC, allowing Chileans to access, learn about and protect their natural and cultural heritage, arose through an invitation by former President Ricardo Lagos Escobar in 2000 to all Chilean citizens to build together a large longitudinal trail linking the country from north to south.

4.1 Trans Canada Trail: background

Canada has a long tradition as a nation of pioneers and creators of trails. Before the arrival of Europeans in Canada, Amerindians established many trails through which they

connected settlements and conducted trade in various commodities (De Viser & L'Orange 2006; Trans Canada Trail 2010). With the arrival of the first Europeans and the subsequent development of the fur trade, this network of trails and paths expanded. Despite this expansion, the network had limited connectivity; only a small part of the Canadian territory was connected (De Viser & L'Orange 2006; Trans Canada Trail 2010). This situation started to change with the arrival of European settlers and the construction of colossal projects such as the transcontinental railway line in the mid 19th century. Later in the early 20th century, attention turned to the establishment of the Trans Canada Highway, which extended from Victoria (BC) to St. Johns (Newfoundland) to eventually become the world's longest national highway at 7,821 km (Encyclopedia Britannica 2012).

In 1992 the TCT was proposed as another ambitious initiative to enhance Canada`s connectivity. This initiative was aimed at connecting the extensive trails, paths, roads and unused rail lines that cross through all of Canada's provinces and territories and establishing one connected trail (De Viser & L'Orange 2006; Trans Canada Trail 2010). This desire for connection is still evident in recent Canadian political discourses, as evidenced by former Prime Minister Stephen Harper's pre-election promise that his government "will work with its territorial and private sector partners to connect Canada's highway system from coast to coast to coast", accomplishing former Prime Minister (1953-1963) John Diefenbaker's vision of having one connected Canada, "from coast to coast to coast". (Conservative Party of Canada 2011, p.1).

4.1.1 TCT Initial motivation

The initiation of the TCT was timed to coincide with celebrations around Canada's 125th anniversary of confederation (Trans Canada Trail 2014b). Official preparations for the anniversary celebrations began in April 1989. In an announcement made in the Speech from the Throne, the government "invited the participation of all provinces and territories in

planning Canada's birthday in 1992" (House of Commons 2012, p.5). In May 1989, Prime Minister Brian Mulroney appointed the Secretary of State as Lead Minister for Canada 125 (House of Commons 2012, p.5) and as a consequence, the non-profit Canada 125 Corporation was established in March 1991. The Canada 125 Corporation was founded by the federal government and given an allocation of 50 million dollars, equivalent to about 74 million in 2012 Canadian dollars, with the objective to select and fund national projects oriented to the celebration of this anniversary (House of Commons 2012, p.6; Trans Canada Trail 2015c). Between March 1991 and late 1992, the board of Canada 125 examined 850 national project proposals, including the TCT project (House of Commons 2012; Trans Canada Trail 2015c). On September 18th 1992, at a Canada 125 board meeting, held in the city of Summerside (Prince Edwards Island), the TCT was passed as a legacy project. Roughly $5 million of the funds granted to the Canada 125 Corporation by the federal government was given to the TCT foundation to begin the Trail's development (Trans Canada Trail 2015c).

This project was made possible through the inspiration of Pierre Camu and William Pratt, subsequent co-founders that planted the seed of the TCT organization. Since then the TCT has evolved to become one of the world's largest networks of multi-use recreational trails (Trans Canada Trail 2014b). Interestingly, the TCT's vision makes a clear reference to its role in contributing to Canadian pride and spirit of connection by linking the country from "coast to coast to coast" (Trans Canada Trail 2012-2013, p.2), an idea rooted in Canadian culture and political history. Figure 11 shows the entire proposed national greenways and trails network map of the project (Trans Canada Trail 2007-2008).

Fig. 11 TCT proposed national trail network in 2007

Source: Trans Canada Trail (2007-2008, p.2)

4.1.2 Objectives

According to statements published in a range of documents, such as annual reports and the TCT Strategic Plan 2012-17, the TCT greenways and trails network aims to inspire people to enjoy outdoor activities including walking/hiking, cycling, cross-country skiing, canoeing, snowmobiling and horseback riding (Trans Canada Trail 2009, 2011c, 2012d). As stated in TCT's Strategic Plan 2012-17, its mission is "to promote and assist in the development and use of the TCT by supporting success at the local level in the creation of this national network" (Trans Canada Trail 2012d, p.2).

The TCT is a community-based initiative made up of nearly 500 individual trails in which all trail sections are owned, operated and maintained by local organizations, municipalities, provincial authorities, and/or national agencies across Canada (Trans Canada Trail 2013-2014, 2014b).

The TCT promotes the following objectives and benefits: i) National legacy: by "creating a sustainable gift for future generations"; ii) Health: by inspiring users of all ages to undertake outdoor fitness activities and active living; iii) Environment, by preserving green spaces, promoting environmental conservation and active transportation means; iv) Education: by creating awareness of Canada's history, culture and natural heritage; and v) Economic development: by promoting tourism which in turn creates jobs and channels money into the local economy (Trans Canada Trail 2014b, p.1). The main network characteristics (objectives and benefits mentioned above) have remained consistent from the beginning of the project. This demonstrates the strength of the vision and commitment behind this national interconnected network (Murphy, J., 2013 pers. comm., Trans Canada Trail 2014-2015).

4.1.3 TCT Organisational structure and governance

The TCT is comprised of two distinct sub-organisations with separate boards of directors (Trans Canada Trail 2012a); the TCT Charitable Organisation (TCTCO) and the TCT Foundation (TCTF). The TCTCO is responsible for overseeing the development and construction of the TCT in every province and territory by working in collaboration with provincial and territorial organizations/partners and over 400 local trail groups, and municipalities (Trans Canada Trail 2015a). The TCTCO also provides funding for its partner organisations, promoting and marketing the trail, forging partnerships and strategic alliances with other organisations and providing tools such as mapping applications to ensure public access to information about the terrain and trail conditions for users (Trans Canada Trail 2012a).

The TCTF was incorporated as a non-profit corporation in October 2010 and has been responsible for fund raising to support the advancement of the TCT since then. The TCTF fundraising strategy involves leveraging funds for annual contributions from people who join the TCT online community as well from various donors at government and corporate levels.

These include: Parks Canada and the Canadian Heritage government agencies as well as The Globe and Mail, Watt International, Raleigh Canada, Loblaw Companies Limited, Keen Canada and Esri Canada from the private sector. Non-profit organisations are also important donors of TCT, specifically The Claudine and Stephen Bronfman Family Foundation and the Royal Bank of Canada (RBC) Foundation (Trans Canada Trail 2012a).

At the national level, the TCT has a management team comprised of: the president and Chief Executive Officer (CEO); a vice-president of resource development and government relations; a chief financial officer; a director of communications; and a national trail director (Trans Canada Trail 2012a). At the provincial and territorial levels, the TCT is represented by provincial and territorial organisations/partners that work at the local level ensuring that the trails are planned and built according to the needs and desires of local communities (Murphy, J., 2013 pers. comm., Trans Canada Trail 2012b). Provincial and territorial partners are also responsible for promoting the TCT vision and mission in their regions and leading the development of the trails by supporting local trail building activities, e.g. planning local trail routes, fund raising, clearing brush, and putting up signs, among other tasks (Trans Canada Trail 2011c). The TCT also has a Territorial and Provincial Advisory Council with representatives from all provinces and territories, which is in charge of addressing problems associated with the connection plan for the trail (The Globe and Mail 2011, p.5).

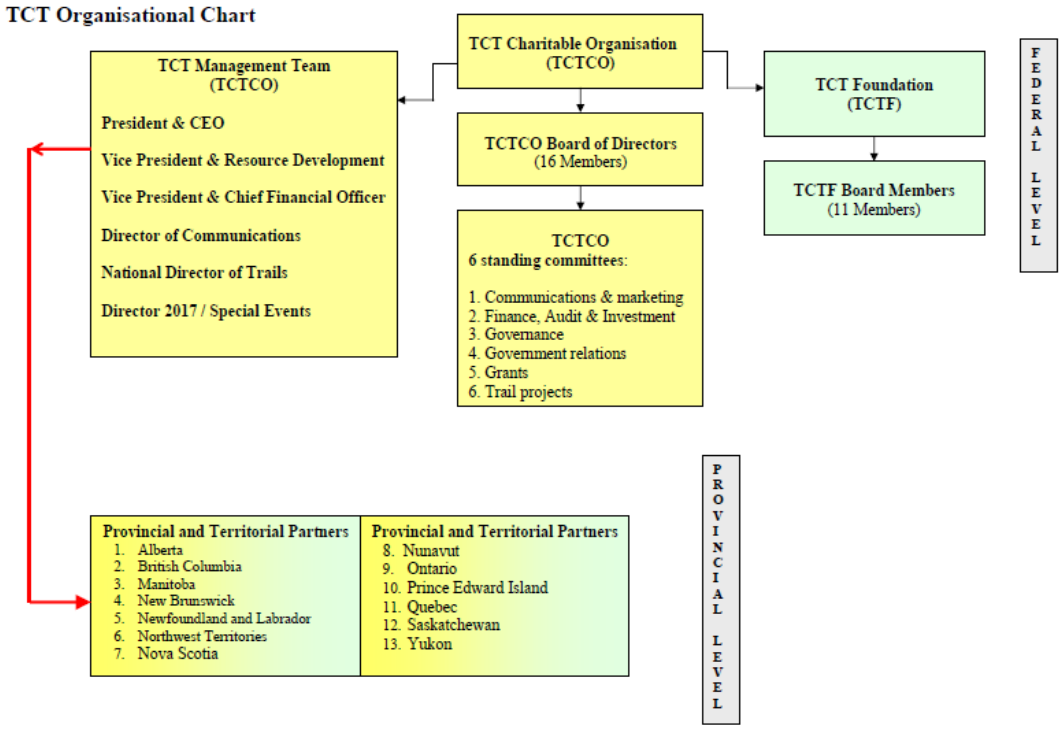

Fig. 12. TCT organisational structure

Source: own elaboration based on information from Trans Canada Trail (2013)

4.1.4 Stage of network development

By 2015 the TCT established nearly 19,000 km of multi-purpose trails, 74% of it on land and 26% on water; this represents 80% of the total proposed route (24,000km), as shown in Figure 13 below (Trans Canada Trail 2014-2015, p.1). By the end of 2014, more than 4,400 km of the TCT was established on roadways, over 4,200 km on waterways and nearly 8,000 km in pathways and greenways of the TCT's nationwide network (Trans Canada Trail 2012c; 2013-2014, p.8). There are still gaps within the trail, with about 5,000 km that need to be developed in order to complete and connect the total planned route (Trans Canada Trail 2014-2015). To date, TCT has established nearly 20,500 km of the project which represents 86% of the project (The Globe and Mail 2016, p.1)

Fig. 13 TCT connection status of the trail by 2015

Source: The Globe and the Mail (2015, p.1):

When fully completed in 2017, the TCT will extend approximately 24,000 km, connecting Canada from the Pacific to the Atlantic to the Arctic Oceans, as shown in Figure 12. Currently the TCT links over 1000 municipalities and communities across every province and territory of Canada (Trans Canada Trail 2014-2015). Information on tenure regimes of the existing or planned trails is not currently available as mentioned in section 3.5. However, given that 89% of Canadian territory is Crown Land (41% federal Crown land and 48% provincial Crown land with less than 11% under private land (Neimanis 2013), it can be deduced that most of the TCT trails are on non-private lands. Figure 14 show four maps representing different stages of development of the national trail by the years 1997, 2002, 2007 and 2012.

4.1.5 Challenges and opportunities

The first priority and biggest challenge for the TCT is to achieve total connection by 2017. As noted by Murphy (2013, pers. comm.), to attain this goal, particularly considering the time constraint, it is essential firstly to maintain the motivation, collaboration and engagement of all stakeholders, especially those working at the local level (e.g., trail builder groups, municipalities, among others). This view was indorsed by Paul Labarge (TCT's Chair) and Deborah Apps (TCT's President and CEO) in their expression of thanks to the TCT's 13 provincial and territorial partners and the 477 local trail groups for their continued commitment towards building and connecting the TCT (Trans Canada Trail 2014-2015, p1). Local trail groups need the necessary resources (technical assistance and funding) to continue their work connecting the TCT's network. Thus, political and financial support from all stakeholders collaborating with the project is seen as essential.

> "I think the biggest challenge is that when you work in a community development model, it does take time. This is the challenge for us [TCT] as an organization, because we do have a deadline… That can be a big challenge, but I think the ways we're overcoming that challenge is by

> fostering and nurturing those relationships [with local level stakeholders]." (Murphy, J., 2013 pers. comm.)

Adding additional kilometres to connect the gaps in the TCT network has been essential to finishing the project on time (by 2017). The waterways, bike path networks within urban and peri-urban areas (on streets and secondary roads) as well as trail segments built on abandoned railway lines that were converted to linear parks have all played an important role in filling in gaps from the project's inception up until today.

An example of this situation can be observed by looking at the four maps showing the TCT network expansion between 1997 and 2012 as shown in Figure 14. Here it is possible to observe that some provinces and territories have expanded their own network rapidly. Some of the reasons for this are the integration of large established trail sections of different types, including waterway trails and networks of bike paths on roadways. Some provinces and territories have quickly expanded their networks by adding important segments of greenways. This is due principally, to the incorporation – based on partnership agreements – of large waterway trail sections, such as the Mackenzie River trail (1.659km) and the Slave River trail (577km) between 1997 and 2002 in the case of Northern Territories (NT) and indicated by a blue circle on the 2002 map. A similar situation can be observed in the case of the province of Alberta (marked with a blue circle), which added an important long waterway section, the Athabasca River trail (825km), to the TCT in 2012.

More recently, on June 6, 2015 at a celebratory event in Saskatoon, Saskatchewan (SK), the TCT and Whitecap Dakota First Nation officially announced the grand opening of the Chief Whitecap Dakota Waterway which added 108 km to the TCT.

> "The Whitecap Dakota water trail provides so many opportunities for residents and visitors to experience the natural beauty of this historic landmark,"… "It also brings us much closer to fully connecting the Trail

> and Canadians by 2017" (TCT Foundation Co-Chair Valerie Pringle (Trans Canada Trail 2015b).

The case of Saskatchewan is an interesting one, given that its network has undergone a great deal of growth in recent years. In 2012 it had 31% network connectivity, indicated in Figure 15 with a light brown circle. By 2015 it had reached 71% connectivity as shown in Figure 13 above (Trans Canada Trail 2012-2013, 2014-2015). This increase is not only due to the inclusion of waterways such as the Chief Whitecap Dakota Waterway, but also because of a partnership strategy oriented to building relationships with rural municipalities (Murphy, J., 2013 pers. comm.) Alliances between the TCTF and 35 rural and agricultural municipalities in Saskatchewan have been built since 2013. This has resulted in the inclusion of 515 additional kilometres aimed at cycling routes on secondary and rural roads (Trans Canada Trail 2014-2015) which were chosen together with the farmers and municipalities in the region (Murphy, J., 2013 pers. comm.) As noted in the TCT Annual Report (2014-2015) because cycling has become more popular the incorporation of these new cycling routes increases interest in these new greenways.

> "In Saskatchewan we are only 31% connected and we have a difficulty because we have a lot of rural municipalities that are farmland (…) So, those farmers are very protective of their land, rightfully so…because that's their business. And so, success in that area is not building trails, but building relationships with those rural municipalities and with those farmers to actually say "we will allow you to designate the roadways in our communities." So they're not trails, but very minimally used roadways, they're called dirt roads." (Murphy, J., 2013 pers. comm.)

Another good example of the rapid expansion of the TCT network can be observed within the province of Québec (as shown in the 2002 map, marked with a red circle). This

was due primarily to the process of adding /incorporating a nearly 960 km section of the Vélo Québec / Route Verte through a partnership agreement between the Conseil Québécoise du Sentier Transcanadien (Trans Canada Trail Québec Council in English, hereafter TCT-Québec) and Vélo Québec (Senécal, R., 2013 pers. comm.). The Route Verte is comprised of more than 5,000 km of greenways and bike paths in the province of Québec (Vélo Québec 2013), of which approximately 40% are off-road and 60% are on paved shoulders in both local and regional routes (Pronovost, J., 2013 pers. comm.). This incorporation includes the Linear Park-Le P'tit Train du Nord (LP-PTDN) which is an important park in Québec, offering 232 km of multiple-use recreational greenways, see Figure 14 below.

Figure 14 presents a map displaying the Vélo Québec's Route Verte, LP-PTDN and the TCT overlapping each other in an important area of the Québec and a small area of Ontario. A thick green line marks the greenway and bike path network of Vélo Québec's Route Verte. A thick yellow line with a thin green line through the middle displays the overlapping, shared sections of the TCT Québec project and Vélo Québec's Route Verte that connects important cities and towns such as Québec, Sherbrooke, Montreal and Mount-Laurier. The thick yellow line with two thin green and red lines in the middle depicts the overlapping of the LP-PTDN project with Vélo Québec's Route Verte and TCT Québec. This links the towns of Bois-des-Filion and Mount-Laurier. Lastly, the thick yellow line shows some sections of the TCT project in Québec and the connection of the provinces of Québec and Ontario in the section that links Mount-Laurier to Ottawa. Finally, the segments marked with just yellow lines, represent the TCT-Québec connection with Ottawa.

The integration of large segments of abandoned railways lines into the TCT is illustrated by the case of the T'Railway Council[16] in Newfoundland and Labrador (NL) which

[16] The Newfoundland T'Railway Council is a non-profit corporation dedicated to the development of a recreational trail from St. John's to Port aux Basques using the former Canadian National railway line.

contributed 883 km of greenways to the TCT national project; it is shown as a yellow circle on the 2002 map in Figure 15 (Newfoundland T'Railway Council 2015) .

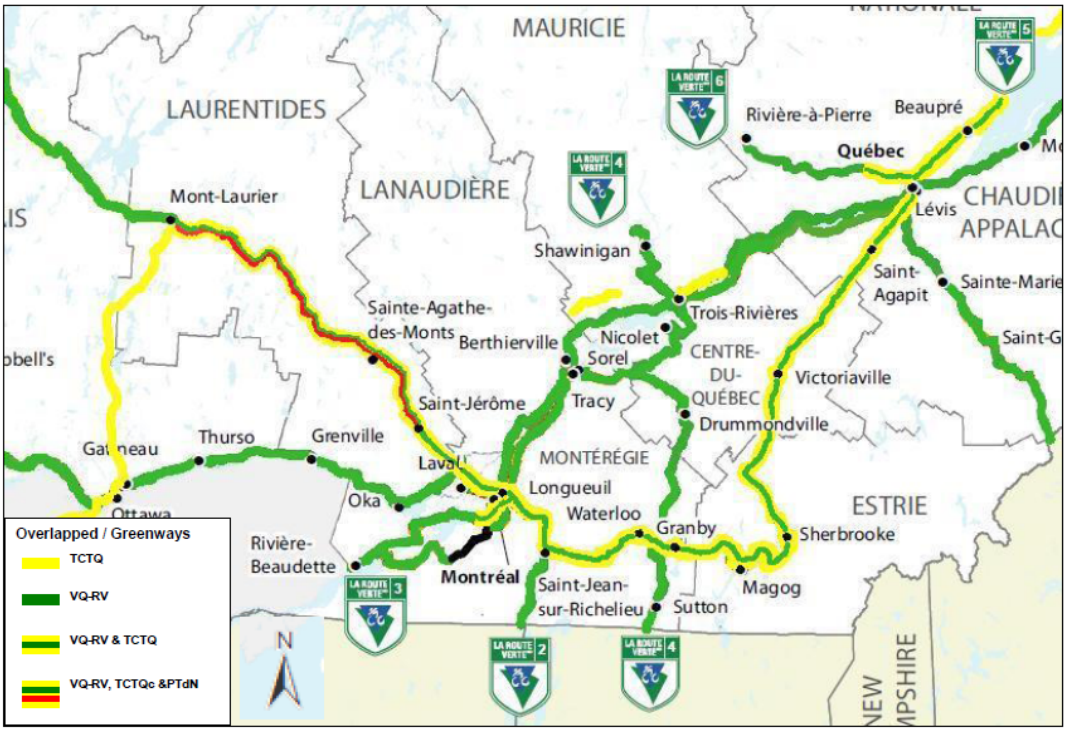

Fig. 14 Expansion of greenways in Québec TCTQ, RV and LP-PTDN by 2012

Source: modified from Vélo Québec (2013), Trans Canada Trail (2013)

In summary, it is clear that the inclusion of various types of new connection segments such as the aforementioned have successfully expanded the network. This has implications concerning future opportunities for the TCT in keeping with the goal of total project connectivity by 2017. For the various connection segments described above, the inclusion of bike paths on rural or secondary roads and the waterways are part of the new focus for connecting the TCT project (Trans Canada Trail 2014-2015). This will be analysed and discussed in chapter 6. In fact, as Paul Labarge (TCT's Chair) and Deborah Apps (TCT's President and CEO) point out in the TCT's Annual Report of 2014-15, they've learned about the benefits provided by using these rural trails as connection segments. This has helped the TCT identify nearly 3,500 km of potential road cycling routes and new water trails to increase the greenways network of the TCT project (Trans Canada Trail 2014-2015, p.1).

Another interesting example to consider regarding the use of this kind of connection segment is a case from Ontario. The general manager of TCT Ontario, Mellissa Pomeroy, states that because there are fewer people living in northern Ontario there has been less help available for building the trails (Trans Canada Trail 2013-2014). This is why the solution has been to focus on setting up waterways in order to engage in paddling, as well as using appropriate country roads suitable for cycling (Trans Canada Trail 2013-2014).

> "Travelling via self-propelled watercraft is an integral part of Canada's history; particularly in Ontario…there is a lot of enthusiasm around the tourism potential of these unique cycling and water trails. Bicycle touring is widely popular and water trails are already a mainstay of tourism in the U.S." Melissa Pomeroy, TCT Ontario General Manager (Trans Canada Trail 2013-2014, p.25)

Success in meeting the goal of connecting the TCT by 2017 will increase local, national and international visibility of the project establishing the TCT as the longest national interconnected network of greenways and trails in the world. Numerous opportunities and benefits are expected from this for all Canadians and international visitors. As mentioned earlier in section 2.1.2 many authors support the idea that greenways can positively impact on people's health, education and culture, as well as, increasing people's social interactions and socio-economic development opportunities, among many others benefits related to environmental aspects.

Several informants mentioned the many opportunities that the TCT as a national project with international visibility can bring to the local trail builders' groups. These include opening the minds of local groups about quality standards for the services they offer, such as construction and trail maintenance standards as well as the appropriate use of signage, as stated below by the TCT's Québec Executive Director.

"I think they [local trail groups] realise that being part of a larger project…could provide several advantages whether it's a province-wide or nationwide project. This approach can expand their minds and help develop concrete, world-class trails that are better than those they could build on their own working only at the local level. Sometimes when people only work at the municipal level developing short trails, they are careful about the quality of the results. But if you are part of a national project you must bring your trail up to the minimum standards set for it. So for them as trail builders and trail users, I think that huge projects like the Route Verte or the Trans Canada trail helps focus their planning in order to ensure that they will utilize a proper building process, good signage, essential maintenance etc. By the way, this opens various doors [for local trail builders] for funding opportunities as well as recognition and visibility in their own municipalities because they are drawing people from all over."

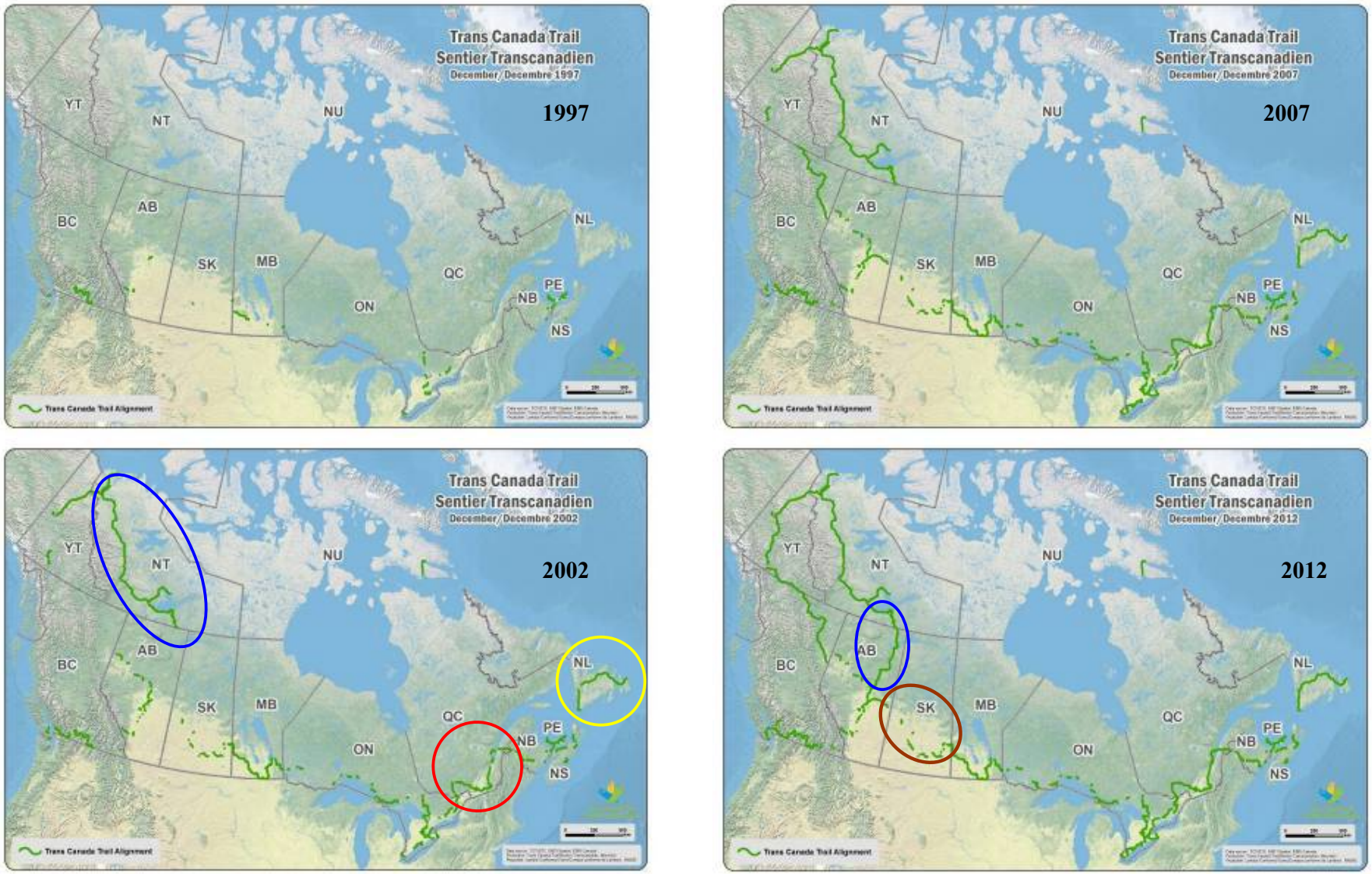

Fig. 15 TCT's national trail network expansion over years

Source: Trans Canada Trail (2012e)

4.2 Sendero de Chile: background

Chile, located in the southern cone of South America, is a country full of contrasts, both in the variety of its landscapes and the mix of cultures that comprise it.

The Chilean territory includes part of the Americas, Oceania and Antarctica, with a total territorial area of 2,006,096[17] km^2, stretching from 17^0 30' S to 56^0 30' S and including about 8,000 km of coastline (Instituto Nacional de Estadísticas 2007, 2014). According to the Ministry for National Assets, Chile's national territory in December 2012 was comprised of 51% public land and 49% private land (Ministerio de Bienes Nacionales 2011, 2012). At the same time the Ministry launched an unprecedented open bid acquisition process oriented to businesses which allowed private use of 26.8% of public land, equivalent to 48,869 hectares (Ministerio de Bienes Nacionales 2012, p.2).

Chile also has highly significant biodiversity and a long history of establishing protected areas (Ormazabal 1993). Its history has been built firstly on the dispossession of its native peoples and then, after the arrival of the Spaniards by the subsequent mix of different peoples and ethnic groups (Fundación Sendero de Chile 2014a). The country's history has left its marks in the form of tracks, trails, and walking paths that connect many parts of the vast Chilean territory, from the arid desert of the north to the evergreen forests in the south.

In Chile, despite the absence of supporting statistics, there is general consensus that natural public spaces are insufficient and, in some cases, are challenging for the general public to access (Ministerio Secretaría General de la Presidencia 2005, p12). Moreover, the spatial distribution of natural public spaces does not match the human population distribution, with most national protected areas distant from the main population centers (Ministerio Secretaría General de la Presidencia 2005). Where statistics do exist, they reflect a deficiency

[17] This number includes the area of the Chilean Antarctic territory. The territorial area without the Antarctic territory is 756.096 km2.

in the availability of urban green areas and public parks under municipal maintenance across Chile (OECD, 2012).

Natural public spaces and green areas are regarded as privileged places for citizens to encounter one another, to develop their identity, and to foster knowledge and appreciation of natural, cultural and social heritage (Ministerio del Medio Ambiente 2011; Ministerio Secretaría General de la Presidencia 2005). During the annual presidential address of May 21st 2000, former President Ricardo Lagos Escobar (2000-2006) invited Chilean citizens to build a public, multi-use, and multi-purpose longitudinal trail network that would cross the country from Visviri in the north to Cape Horn in the far south of the country. This trail of about 8,000 km would support travel by foot, horseback or bicycle, allowing citizens to enjoy and discover the natural and cultural heritage of Chile (Fundación Sendero de Chile 2011a; Ministerio Secretaría General de la Presidencia 2005).

4.2.1 SDC Initial motivation

The Sendero de Chile Programme (SDCP), as it was called at the beginning, was part of a series of bicentennial projects (*Proyectos Bicentenario*) designed to commemorate 200 years of Chilean Independence from Spain in 2010. This programme was part of the presidential mandate and was promoted and coordinated by the National Commission for the Environment (CONAMA), which in 2010 was transformed and renamed the Ministry of the Environment (Ministerio Secretaría General de la Presidencia 2005, p.12). The main purpose of the SDCP was stated as follows:

> "Citizens have access to natural public spaces formed by a network of interconnected trails through a backbone route that goes from Visviri to Cape Horn, built in a participatory manner, valuing the natural heritage and ecosystem diversity of the country"(Ministerio Secretaría General de la Presidencia 2005, p.14).

In order to fulfill this purpose, the SDCP was divided into four components (or objectives): 1) constructing and equipping trails;[18] 2) developing projects with neighbouring communities; 3) education; and 4) outreach. Figure 16 below shows the proposed national longitudinal trail network in 2002, from north to south, under CONAMA administration.

The first component of the SDCP focused on the construction of an interconnected network of trails (component/objective 1: constructing and equipping existing trails) and was prioritized during the first stage of the project (between 2001 and 2006) under the government of President Lagos.

In June 2009 the Sendero de Chile Foundation (SDCF) was incorporated by order of President Michelle Bachellet Jeria (The Canada-Chile Commission for Environmetal Cooperation et al. 2009). Consequently, the SDCP changed its administration and went from being a government program under the administration of CONAMA, to being coordinated and managed by a private non-profit foundation called SDCF. More details of this change are provided in section 4.2.3.

During this first phase of the SDCP (2001-2006), and especially in the first years (2001-2003), there was strong interest from CONAMA in gaining an understanding of international experience with the construction and equipping of trails, particularly in terms of their regulation, administration models, funding mechanisms, among other aspects related to the planning and implementation these projects (Aylwin et al. 2002). In fact CONAMA commissioned in 2002 a legal study which reviewed international experience, including legal statutes governing trails, institutional models for administration and management, and land tenure issues. The study focused on countries where greenways and trail network projects already existed, with particular attention to North American (US and Canada) experiences; e.g., the Appalachian Trail and the Pacific Crest Trail, in the US and the TCT in the case of

[18] This component relates to the design, construction and provision (equipping) of trails for the public use (Ministerio Secretaría General de la Presidencia. 2005, p.2)

Canada. Special interest was given to the TCT experience. According to the authors of the study: “While there are many initiatives of hiking trails in Canada, the one which is of most interest for the case of Sendero de Chile, is called, the Trans Canada Trail” (Aylwin et al. 2002, p.29). This was confirmed by Marsh (Marsh 2003, p.299), who claimed that the SDC has been partly modeled on the TCT and the Appalachian Trail.

Under the framework of the Agreement of Environmental Cooperation signed between Chile and Canada in 1997, presentations on the SDCP were given on several occasions by the Chilean government through CONAMA (now Ministry of Environment) to the Canadian government, as represented by Environment Canada. For instance, it was included in session 4 (Citizen Engagement in Environmental Conservation) of the 2003 bilateral workshop: "Building Environmental Partnerships". The objectives of this three day event were: i) to exchange information on various initiatives involving citizens, the private sector and non-governmental organizations in environmental management; ii) to discuss challenges encountered and successes achieved in building partnerships and iii) to identify possible areas for future collaboration (Canada-Chile Agreement on Environmental Cooperation 2003). Since the workshop in 2003, SDCP has been reported on in five consecutive official reports from 2005-2009 submitted by the Canada-Chile Commission for Environmental Cooperation (The Canada-Chile Commission for Environmetal Cooperation 2005, 2006, 2007, 2008, 2009). However, no further exchange of information or meetings were recorded between the SDCP and TCT staff members (Delgado 2014 pers. comm.; Infante 2012; 2016 pers. comm.; Murphy 2013 pers. comm.).

After 2006, the construction of trails became less of a priority (Infante 2013, Infante S., 2012 pers. comm.) and the SDCP entered a second stage focused on the promotion of hiking activities in the country (Infante 2013, Infante S., 2012 pers. comm.). This new emphasis was articulated through different programs aligned with components/objectives 2, 3,

and 4 (above), emphasizing the cultural and natural heritage connection of Chileans through hiking and environmental education activities as well as promoting local community projects related to sustainable ecotourism activities in areas and communities adjacent to sections of the SDCP (Infante 2013, Infante, S., 2012 pers.comm.).

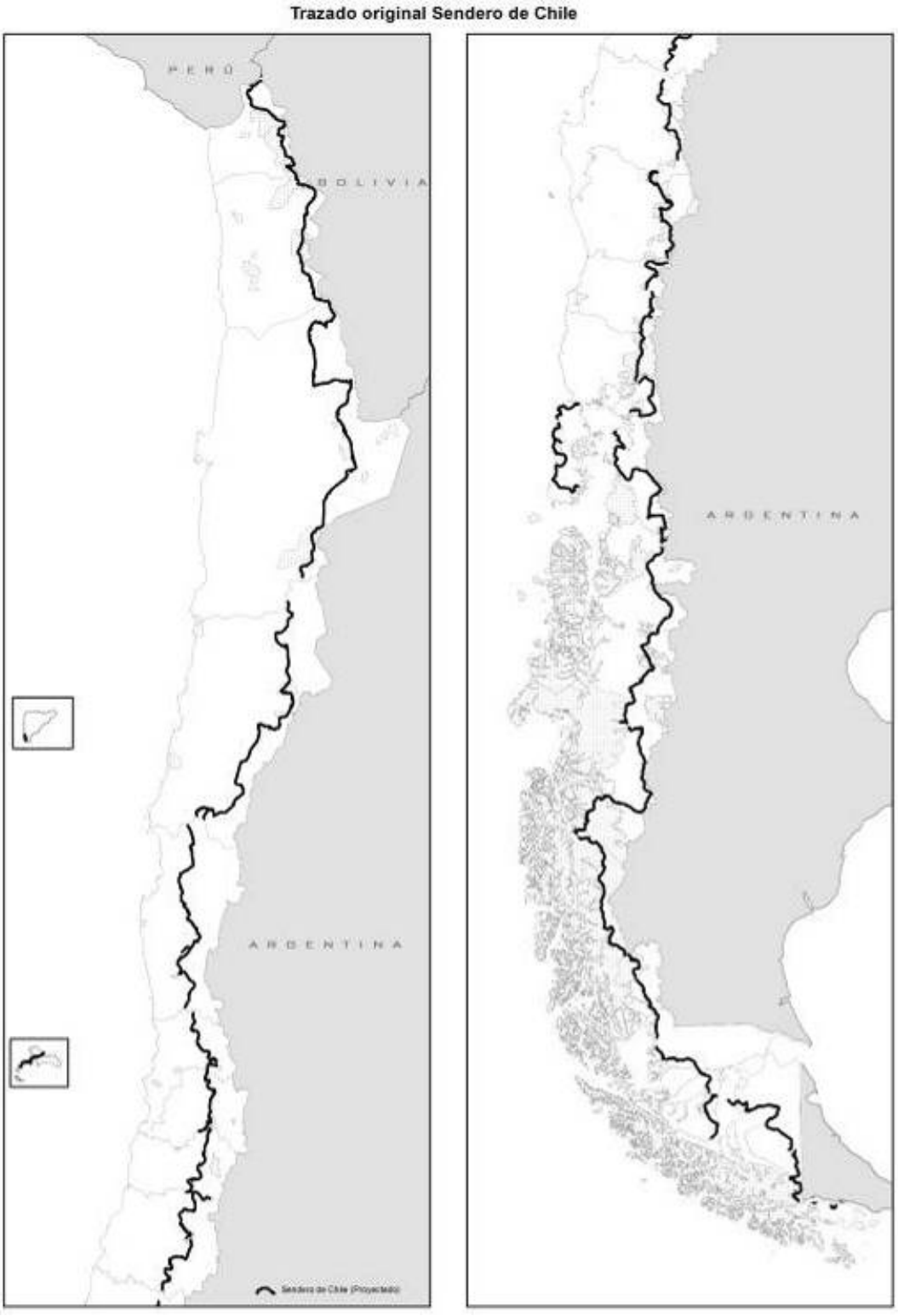

Fig. 16. SDC proposed national trail network

Source: Fundación Sendero de Chile (2014e)

4.2.2 Objectives

Since 2010, the SDCF has promoted the following nine objectives: i) create a network of trails throughout the country that allows visitors to access, learn about and enjoy the uniqueness, biodiversity, culture and landscape of Chile, on horseback, on foot or by bicycle; ii) develop, articulate and promote multiple trips using the trail both as a means of travel and as a main attraction, combining security and visitor information and affordable prices; iii) constitute the SDC as a link in Chile's supply of ecotourism and cultural tourism; iv) integrate owners and local communities in the planning and management of tourism products related to the trail, and in the distribution of profits generated, contribute to the development of small business and overcoming poverty in isolated rural locations; v) promote volunteerism as a tool to support management of the trail; vi) contribute to the conservation, effective protection and enhancement of cultural heritage; vii) create awareness about the importance of heritage and its protection through the interpretation of cultural activities and artistic habits, while promoting respect and appreciation for local people and their customs; viii) create awareness and promote the benefits that walking produces in people's health and the development of values such as friendship, solidarity and tolerance among different human groups; and ix) ensure appropriate access conditions to the trail for disadvantaged youth, seniors, people with disabilities and other vulnerable groups (Fundación Sendero de Chile 2010; Ministerio del Medio Ambiente 2013).

These objectives were ratified in 2013, following an agreement for the transfer of funds signed in 2010 and 2013 between the SDCF and the Ministry of the Environment (Fundación Sendero de Chile 2011a; Ministerio del Medio Ambiente 2013).

While these objectives remain part of the project, the SDCF is currently dedicated and oriented to the "promotion of hiking at the national level as an activity that allows citizens to access, learn, interpret, and protect the existing natural and cultural heritage from the various

territories within Chile" (Fundación Sendero de Chile 2014b, 2014c). In other words, and as previously mentioned in section 4.2.1, the focus on the creation of a connected network of trails (part of the component /objective 1) has lost much of its strength. Meanwhile the SDCF has given more attention to the following: the development of plans, programs and projects for the interpretation of natural and cultural heritage; the design and implementation of outdoor environmental education programs for various targeted audiences; and the development and articulation of tourism (Fundación Sendero de Chile 2014c; Ministerio del Medio Ambiente 2015).

4.2.3 SDCP and SDCF Organisational structure and governance

In 2001, CONAMA initiated the coordination and implementation of the SDCP through its Department of Natural Resources Protection, which was mainly financed through the national budget (Fundación Sendero de Chile 2011a; Ministerio Secretaría General de la Presidencia 2005). CONAMA was the coordinating entity of the SDCP at both national and regional levels. Figure 17 below outlines SDCP's interrelationships with different government departments, including boards under the coordination of CONAMA (Ministerio Secretaría General de la Presidencia 2005).

The initial design of the greenway network was amended in 2004 to incorporate cross-paths and circuits associated with the north-south axis. The motivation for this change was to provide new opportunities for local management of trail segments and the voluntary participation of stakeholders at different levels and sectors, (Ministerio de Hacienda 2005, p.3).

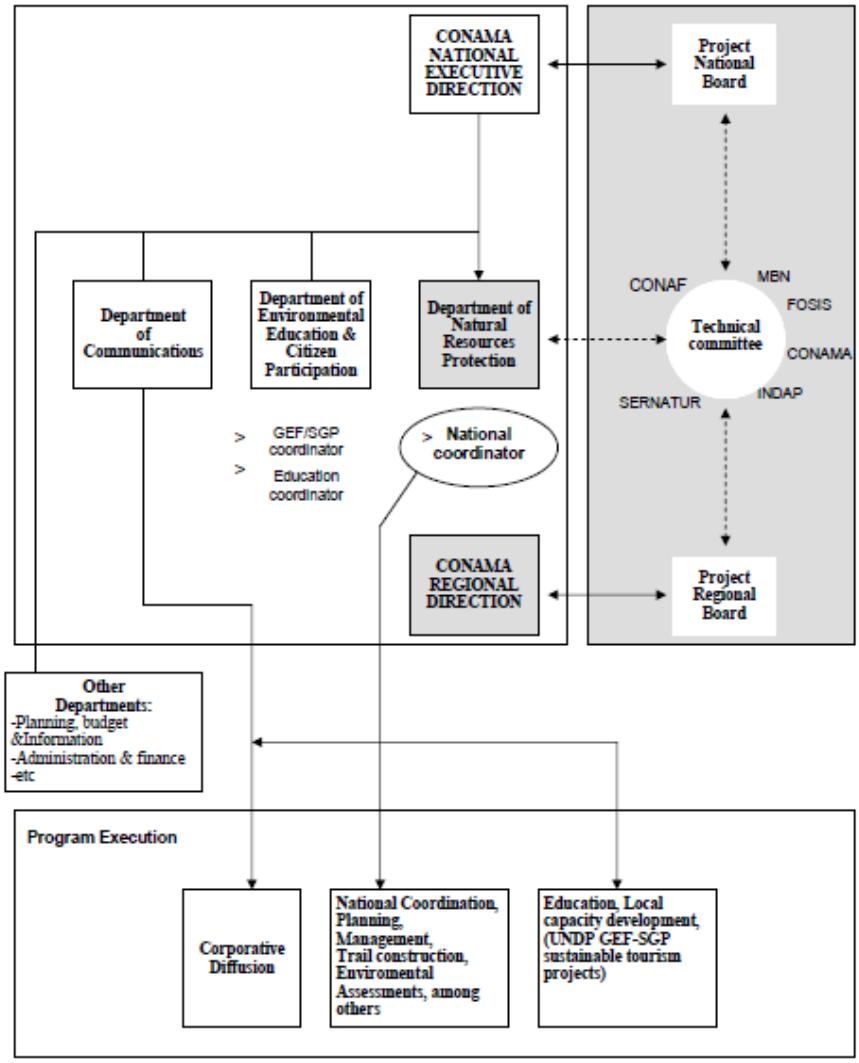

Fig. 17 SDC Program (CONAMA) organisational structure

Source: Ministerio Secretaría General de la Presidencia (2005, p.23)

In 2005 as part of a review of government programs made by the Budget Directorate (DIPRES, for its acronym in Spanish) of the Chilean Ministry of Finance, an evaluation of the SDCP was conducted. This evaluation contained a number of recommendations for change which were proposed to ensure the success and sustainability of the SDCP. In response, a number of commitments were made between CONAMA, the SDCP's national board and DIPRES, which centered on the design of a new implementation strategy for the period of 2009-2015 and a new institutional model for the coordination of the project (Fundación Sendero de Chile 2012; Ministerio del Medio Ambiente 2013, p.2). In 2008 under

CONAMA's administration, the national board of the SDCP[19] proposed the creation of a non-profit private foundation, called *Fundación Sendero de Chile*, to provide continuity and greater efficiency in different aspects of the project, such as trail development, as well as flexibility in raising financial support and managing its resources (Ministerio del Medio Ambiente 2010, item 8.g.). Responsibility for the implementation of the project was officially transferred to the SDCF in June 2009 by decree of the Ministry of Justice (Fundación Sendero de Chile 2011a; 2012, p.1)

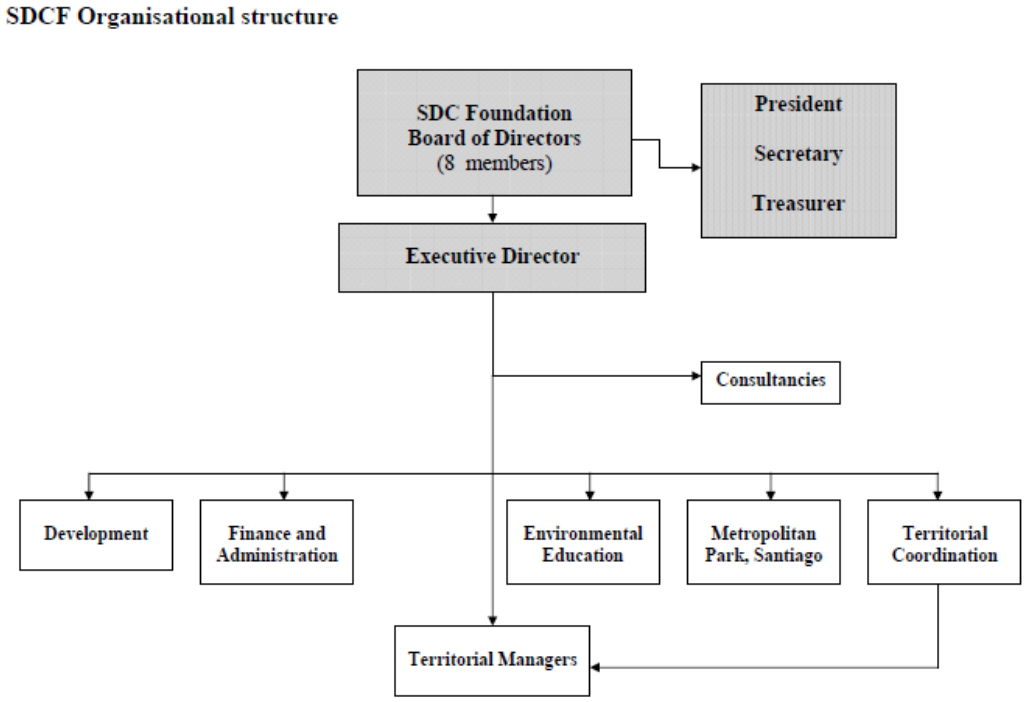

Fig. 18 SDCF's organisational structure since 2011

Source: adapted from Fundación Sendero de Chile (2011b, p.6)

4.2.4 Stage of network development

By October 2004, three years after the project began under the administration of CONAMA, it was claimed that 1,536 km (24 km in 2001; 80 km in 2002; 472 km in 2003; 959 km in 2004) of the trail had been completed; a trail length representing almost 19% of the

[19] Board of directors formed by CONAMA, SERNATUR (Chilean Tourism Service), CONAF (Chilean Forestry Agency), Ministerio de Defensa (Ministry of Defense), Ministerio de Bienes Nacionales (Ministry of National Assets), FOSIS (Chilean Solidarity and Social Investment Found)

total initial planned route (Ministerio Secretaría General de la Presidencia 2005, p.49). In June 2005 the final report and evaluation of a panel of experts from the Directorate of the Chilean Ministry of Finance,[20] commissioned by the Ministry General Secretariat of the Presidency, confirmed that given the rate of progress to date (annual kilometres established per year indicated above) the goal set for the bicentennial commemoration in 2010 would be not achieved (Ministerio Secretaría General de la Presidencia 2005). This same report stated that 47.3% of the proposed national network, shown in Figure 15 above, crosses private property, however the report indicated that the SDCP had not fully resolved how to intervene in these cases (Ministerio Secretaría General de la Presidencia 2005, p.7). As shown in Figure 19 below, in 2005 SDCP's property was disaggregated taking into account kilometres of trail developed (1,143,8km) , under development (1,355 km) and projected (3,277km), (Directorio Nacional Programa Sendero de Chile & CONAMA 2005). According to this report, of the 1,143 km of trails that had been developed at that stage, 73.2% (837.5 km) were developed on public property and 26.8% (306.3 km) on private property. Trails on public property were mainly developed within the National System of State Protected Wildland Areas (SNASPE for its acronym in Spanish) on National Property for the Public Use (BNUP for its acronym in Spanish) administered by the Ministry of National Assets, and also on BNUP administered by the Ministry of Public Works and Municipalities. Trails developed on Coastal Borders and Army Forces public land are less relevant, Figure 19 below. On the other hand, trails on private property impacted mostly on indigenous communities' areas and private individuals, followed by agricultural communities and private collectives, Figure 19 (Directorio Nacional Programa Sendero de Chile & CONAMA 2005, p.40). This information highlights two interesting issues. Firstly, that almost three quarters (73%) of the SDCP network expansion between 2001 and 2005 was made on public land and mostly over SNAPSE territories and

[20] *Dirección de Presupuesto del Ministerio de Hacienda*

other BNUP territories administered by ministries and other services participating in the SDCP national board. Secondly that almost half (47.3%) of the entire proposed route was planned crossing private land without a comprehensive plan for managing this situation (Ministerio Secretaría General de la Presidencia 2005).

Table 3. SDCP Property Distribution in km				
Property Types		Categories in km		
		Developed	In development	Projected
Public Property	SNASPE [1]	**486.4**	303.5	614.2
	BNUP [2] administered by the Ministry of National Assets	**230.2**	365.4	477.7
	BNUP administered by the Ministry of Public Works	**55.1**	24.3	258.8
	BNUP administered by the Municipalities	**59.9**	0	0
	Coastal Border	**4**	112	42
	Armed Forces	**1.9**	0	0
Private Property	Agricultural community	**45**	128	175.9
	Indigenous community	**112**	73.5	16
	Private individuals	**101.5**	227.3	1042.4
	Private collectives	**47.8**	42.1	88.2
	Other Situations	**0**	78.9	365.9
	Without property information	**0**	0	196.3
	Total	**1,143.8**	**1,355**	**3,277.4**

[1] National System of state protected Wildland areas
[2] National Property for Public Use

Fig. 19 SDC Property distribution by 2005

Source: Directorio Nacional Programa Sendero de Chile and CONAMA (2005, p.41)

A 2011 report conducted by the SDCF presented the most significant achievements and actions over ten years of existence and claimed that 2,300 km of trail had been completed (Fundación Sendero de Chile 2011b, p.6). This distance was calculated by adding the length of kilometres of the developed and under development categories at the end of 2005, as shown in Figure 19 above (Delgado 2014 pers. comm.; Directorio Nacional Programa Sendero de Chile & CONAMA 2005). Three maps representing different stages in the development of the project are provided in Figure 20 below. These maps show that the

network is very discontinuous and also that, despite the efforts, ideas and resources invested in the proposed Inter-Sectoral Strategy for the Planning of Sendero de Chile Program 2006-2010, the network did not expand enough to achieve the goal of connection by 2010. More information about these issues, especially where and why the network expanded faster, will be presented in section 4.2.5 and discussed further in chapter 6.

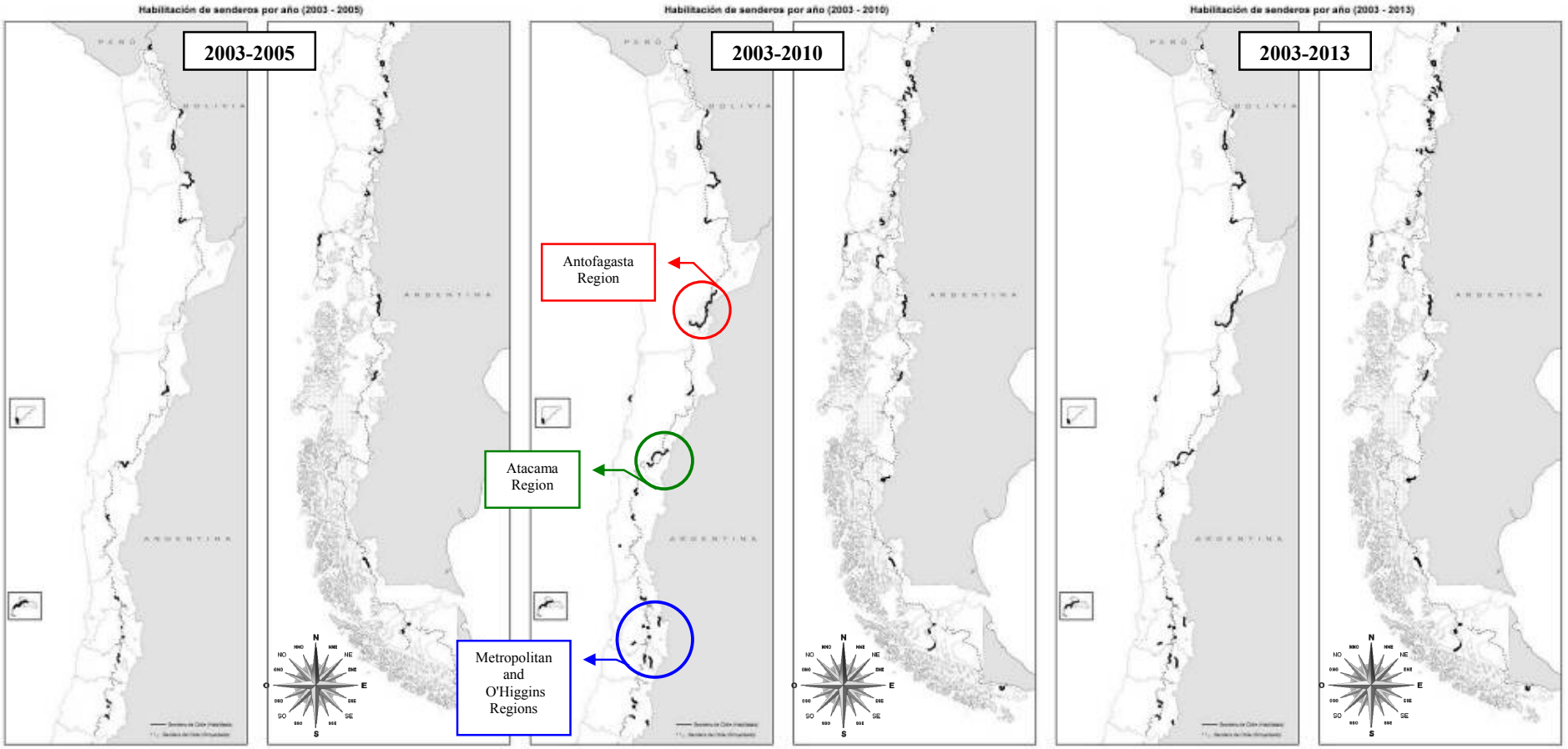

Fig. 20 SDC national trail network expansion over time

Source: data and maps provided by Fundación Sendero de Chile (2014d)

4.2.5 Challenges and opportunities

The main challenge for the SDC is certainly to ensure the project's continuity and sustainability. The connection goal for 2010 (bicentennial celebration) has now past, and was not achieved. However, and despite the fact that this connection objective is still one of the stated project goals, there is no clear horizon for achieving it. Based on the report analysis conducted the Budget Directorate of the Chilean Ministry of Finance in 2005, as well as several interviews conducted for the present research, it is apparent that the sustainability of the SDC is linked to the following priority aspects. Firstly, the need to increase the degree of progress in the expansion and connection of the network by adding or constructing new sections of the network, based on strategic planning of the project. Secondly, the strengthening of human resources involved in the project's coordination at both national and regional levels, with a particular emphasis on strengthening management capacity and the resolution of legal and institutional issues related to implementation of trail segments at the local level (Ministerio Secretaría General de la Presidencia 2005, p.9). The latter is key for the expansion of the network and consequently for maintaining citizen support and interest in the project, as well as, maintaining the necessary political and financial support for the project at both national and regional levels.

As will be discussed in chapter 6, a big challenge for the SDC has been maintaining political, and particularly the financial, support from the State/ Governments over the years (Infante, S., 2016 pers. comm.). Financial support has been decreasing over the years, as shown in Figures 24 and 25 in chapter 5. This decrease in support is related, among other things, to stagnation in the growth of the network following a shift away from the initial emphasis on territorial connection through the construction and equipping of trails (see section 4.2.2).

Opportunities taken by SDC to quickly expand the network during the first stage (2001-2010) are apparent from the maps shown in Figure 20. For instance, an important section of the SDC (marked with a red circle) was annexed and incorporated in 2008 (Fundación Sendero de Chile 2014d). This section is part of the Llullaillaco National Park within the Antofagasta region, part of the National System of State Protected Areas, with 196 km of hiking and biking trails (Fundación Sendero de Chile 2015c). Another important section of the trail comprising 75.1 km (marked with a green circle) was added in 2009 (Fundación Sendero de Chile 2014d) within the indigenous private protected area called Huascoaltinos[21] in the Atacama region (Fundación Sendero de Chile 2015b). Finally, more dispersed growth of the network is apparent in the Metropolitan and O'Higgins regions (marked with a blue circle) where different sections of the trail were incorporated between 2003 and 2010, enlarging the network by almost 147 km (Fundación Sendero de Chile 2015a).

At the end of 2005 the national directory of SDCP began work on the design of the Inter-Sectoral Strategy for the Planning of Sendero de Chile Program 2006-2010[22], a strategic plan towards achieving the SDC connection for 2010, which was approved in 2006 by the SDCP National board of Directors (The Canada-Chile Commission for Environmetal Cooperation et al. 2006). This included consideration of different alternatives to expedite the project's connection, such as incorporating rural roads in disuse and in particular cases, rural roads with low vehicular frequency and disused railways branches (Directorio Nacional Programa Sendero de Chile 2006, p.9). Also, and as indicated in the report delivered by CONAMA for the Canada-Chile Commission for Environmental Cooperation (The Canada-Chile Commission for Environmetal Cooperation et al. 2007), the new strategic plan proposed other options for cooperation, such as cooperation agreements between CONAMA and

[21] Huascoaltinos is in charge of the agricultural community diaguita Huascoaltinos, comprising 260 families. Huascoaltinos Private Nature Reserve has a total area of 2197.3 square kilometers.
[22] Estrategia Intersectorial para la Planificación del Programa Sendero de Chile 2006-2010

different stakeholders and institutions from the public and the private sector. These included, for example, cooperation with the *Nueva Via* Construction Company (INVIA)[23] which was in charge of the commercial exploitation of the property owned by the Chilean State Railway Company (EFE[24], for its acronym in Spanish). This led to restructuring and conversion of a disused railway line into an extensive bicycle track between the towns of Lonquimay and Lebú, resulting in 280 km extension in regions VIII and IX (The Canada-Chile Commission for Environmetal Cooperation et al. 2007).

However, these types of connection alternatives were often unsuccessful for a variety of reasons. For example, the conversion of the railway branch between Lonquimay-Lebu into a bike path failed because, according to Infante, S. (2016 pers. comm.), the Minister of Public Works (MOP, Spanish acronym) had a mandate related to the construction of roadways for motorized vehicles, but not bike paths, and train lines were not under their jurisdiction (Infante, S., 2016 pers. comm.).

Reconsideration and exploration of different types of connection alternatives, including the use of disused railways branches, secondary roads and waterways (e.g., rivers), can be a great opportunity to extend the connection of the project in the future. When asked about the value of revisiting these alternatives, particularly the failed case of the Lonquimay-Lebu railway project, Infante, S., (2016 pers. comm.) responded that the SDCF had considered promoting a pathway law for Chile "in its 3.0 version" for 2016. This would create a new institution with attendant legislation in which, for example, it could set up a trail and bike path department within the MOP with the same legislative authority it has over the roadways. The MOP would be empowered to expropriate, build, maintain and improve trails.

[23] Inmobiliaria Nueva Via INVIA SA, is a company under private law, organized as a corporation. In 2007 INVIA was in charge of the commercial exploitation of property, real or personal, owned by the State Railway Company (EFE).

[24] Empresa de Ferrocarriles del Estado (EFE)

The right political support is essential to achieve this. According to Infante (2016 pers. comm.):

> "The Chile of today is not the same one as in 2007. Today in our nation and throughout the world there is a growing interest among the population for using public spaces and linking them using various multi-purpose trails. Furthermore, there is a greater awareness of the positive impacts that these spaces have on health, local development and more. Therefore, in 2016 we want this to be our focus!"

4.3 Similarities and differences between the TCT and SDC

Similarities in the initial motivation and mission of the two cases are evident. The two projects began as ways to commemorate important dates for each country, aiming to imbue citizens with strong ideas about the importance and the multiple benefits of territorial, cultural and socio-economic integration through the connectivity provided by national interconnected networks of greenways and trails. In the case of Canada, the TCT was selected as a legacy project in association with the commemoration of the 125th anniversary of the Canadian Confederation. Similarly the SDC in Chile was conceived as one of several bicentennial projects created to commemorate 200 years of independence from Spain. Furthermore, both initiatives were initially planned as strategies to connect people and their communities. Connecting Canadians "from coast to coast to coast" in the case of the TCT, and allowing Chileans to access, learn about and protect natural and cultural heritage.

There are also several key differences between the TCT and SDC with regard to their initial motivations and approaches. The SDC project was largely the result of a brief but important "top-down" statement by the President of Chile during the annual presidential address in the year 2000. In the TCT case, and despite political and financial support received from the Canadian Parliament at the beginning and then from the federal government, the

TCT national project emerged as a "bottom up" approach based on the vision and inspiration of two Canadians - Pierre Camu and William Pratt – who reflected the wishes of civil society and different grassroots trail and user-related organisations organised under the umbrella of a not-for-profit charity, rather than the country's leadership. As William Pratt argued, referring to one of the guiding principles of TCT: "the TCT must be a grassroots trail that is designed, built and managed by local groups/ communities and according to local wishes"(Pratt 1993, p.67)

Similarities between the objectives and benefits of both projects converge on four major themes: i) Education: the TCT aims to broaden awareness of heritage and history in Canada while the SDC promotes understanding of Chile's biodiversity and cultural landscapes; ii) Environment: Both sites promote conservation, environmental protection, and improved access to green spaces as a main objective; iii) Economic development: the TCT and the SDC aim to promote tourism and to boost the local economy by creating jobs (TCT) and by developing small businesses (SDC); and iv) Health: both the TCT and SDC encourage outdoor activities such as hiking, biking and canoeing, and consequently promote active living habits to their respective populations.

Different governance structures, processes and management arrangements have been applied in the TCT and SDC projects over the years. These governance and management arrangements have been designed as a means to achieve their various project objectives. However, an important focus has been on finding the best way to allocate resources, financial and non-financial (e.g. technical assistance and knowledge) (see subsections 5.1.1.1 and 5.1.1.2), and secondly to increase coordination among and across the multiplicity of stakeholders associated with these projects.

With regards to similarities in their organisational and governance arrangements, both the TCT and SDC, despite differences in the structures of government in Canada and Chile

(see appendix 2), coincide with regards to their commitment to multi-level governance approaches. The TCT operates under a governance model where decision making occurs across multiple jurisdictions and levels (local communities, regions provinces and territories), supported by collaborations and partnerships with stakeholders from the public and private sectors. The SDCP has also operated across multiple jurisdictions and levels (municipalities, regional and national) for much of its history, but has evolved and changed governance and management approaches over time, as shown in Table 1 below (for more detail see section 4.2.3.).

The SDCP started its operations with a public inter-sectoral approach, coordinated by CONAMA and national and regional boards of directors including members from others ministries and government agencies. The latter included the Chilean Tourism Service (SERNATUR), Chilean Forestry Agency (CONAF), Ministry of Defense, Ministry of National Assets, Chilean Solidarity and Social Investment Fund (FOSIS). Following institutional changes, introduced in 2009, the SDC, under the new administration of the SDCF, started applying a multi-sectoral approach in which the private sector was included.

The management model of the TCT has been more "stable" over time than that of the SDC. As explained in section 4.1.3, the TCT has maintained its organisational structure and its collaboration with provincial and territorial partner organisations, including over 400 local trail groups and numerous municipalities.

Another factor which has influenced the collaborations and partnerships between multi-level and multi-sectoral stakeholders participating in the TCT and SDC is related to the way in which these projects have created, maintained or changed their own organisational models and governance structures over time. This is based on each project's origins, its political and cultural context, and its efforts to create necessary conditions and rules for

allowing collective action and in consequence, the creation of partnerships between a variety of stakeholders that work in association with these national initiatives.

International organisations have played a major role in supporting the development of the SDC. Under the administration of CONAMA, the SDCP received financial support in 2004 (about USD 200,000) from the Global Environment Facility / Small Grant Program (GEF/SGP) implemented by the United Nation Development Program (UNDP) in Chile (Infante, S., 2012 pers. comm., UNDP GEF-SGP n.d). This support was given in order to develop over 30 projects related to ecotourism, environmental awareness and sustainable use of local natural resources between 2004 and 2007 (Fundación Sendero de Chile 2013, The Canada-Chile Commission for Environmetal Cooperation et al. 2006). These were implemented by local communities in different regions associated with the SDC trail segments. More recently the GEF, through the UNEP, approved financial support for a project called: "Protecting Biodiversity and Multiple Ecosystem Services in Biological Mountain Corridors in Chile's Mediterranean Ecosystem". The SDC foundation and the Chilean Ministry of Environment have been working in collaboration as executing agencies of this project, with the GEF as the implementing agency at the regional level (GEF 2013).

Contrary to the level of international support for the SDC, the TCT has not received financial support from the international community. The only UN sponsorship is a collaboration from the United Nations Educational Scientific and Cultural Organisation (UNESCO) - Man and Biosphere Programme (MAB) - to the Fundy Biosphere Reserve in New Brunswick within which TCT has an operational trail of 33 km (Fundy footpath) since October 2013 (Trans Canada Trail 2013-2014, p.13).

4.4 Summary

The present chapter has provided an in-depth overview of the two case-studies addressed in this thesis: the TCT and the SDC. This is, to my knowledge, the first study to provide a comprehensive account of these initiatives, highlighting the similarities and differences between them which are summarized in Table 1 below. The chapter also highlights the challenges and opportunities for greenways development in their planning and implementation processes. The most important challenge for both initiatives is to achieve their connection goal and the chapter presents the various strategies each project is using to achieve this goal. The information provided in this chapter will hopefully serve to inform future implementation and design of nationwide greenways.

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Organisations	TCT	SDC
Initial motivation	▪ To commemorate 125th anniversary of confederation ▪ Connect Canadians "from coast to coast to coast"	▪ To commemorate 200 years of independence in Chile ▪ Give Chileans access to natural public spaces from Visviri to Cape Horn (North to South)
	▪ 1989 Speech of the throne (Governor General of Canada) "invited the participation of al the provinces and territories in planning Canada's 125th birthday in 1992 ▪ In May 1989, Prime Minister Brian Mulroney appointed the Secretary of State as the lead Minister for Canada 125 ▪ In March 1991, the non-profit corporation "Canada 125" was established and founded by the Federal government to select national projects for the 125th anniversary ▪ 1992 TCT registered Charity was created and proposed the TCT project idea to Canada 125 corporation, as a legacy project for the 125th anniversary Canada ▪ Project was by selected by Canada 125 Corp. in 1992[25]	▪ May 21st 2000, President of the Republic of Chile Ricardo Lagos launched the idea of the SDC Program as a bicentennial project in the context of the presidential annual address. ▪ President Lagos invited Chileans to build the SDC connecting Chile form Visviri in the north to Cape Horn in the south of Chile
Start of project	▪ TCT Project started in 1992	▪ SDC Project started in 2001
Mission	▪ To promote and assist the development and use of the TCT by supporting success at the local level in the creation of this national network.	▪ To promote hiking in the national population as a relevant activity to access, learn, interpret, evaluate and protect the natural and cultural heritage present in the various territories of our country
Objectives and benefits associated	▪ National legacy: by creating a sustainable gift for future generations ▪ Health: by inspiring users of all ages to undertake outdoor fitness activities and active living ▪ Environment: by preserving green spaces, promoting environmental conservation and active transportation means	▪ Create a network of trails throughout the country that allows visitors to access, understand and enjoy the uniqueness of biodiversity, culture and landscapes of Chile, on horseback, on foot or by bicycle ▪ Develop, articulate and promote a multiple offering of trips using the trail as a means of travel and main attraction, combining security and visitor information and affordable

[25] (House of Commons 2012, p.6)

	▪ Education by creating awareness of Canada's history, culture and natural heritage ▪ Economic Development: by promoting tourism which in turn creates jobs and channels money into the local economy	prices ▪ Constitute the SDC as a link in the supply of ecotourism and cultural tourism in the country ▪ Integrate owners and local communities in the planning and management of tourism products related to the trail, and in the distribution of profits generated, contributing to the development of small business and overcoming poverty in isolated rural locations ▪ Promote volunteerism as a tool to support management of the trail ▪ Contribute to the conservation, effective protection and enhancement of cultural heritage ▪ Create awareness about the importance of heritage and its protection through the interpretation of cultural activities and artistic habits, while promoting respect and appreciation for local people and their customs ▪ Publicise and promote the benefits that walking produces in the health of people and the development of values such as friendship, solidarity and tolerance among different human groups ▪ Create appropriate access conditions to the trail for disadvantaged youth, seniors, people with disabilities and other vulnerable groups
Organisation structure and Governance	▪ TCT has been managed by a national non-profit registered charity organisation (TCT–CO) and later TCT Foundation (TCTF) ▪ Project has been operated since the beginning as a community based project (bottom-up approach) under a multi level multi-stakeholder governance model characterised as: multi-sectoral (private-public) multi-level (provinces, territories and local communities) and multi-stakeholder participation and collaboration	▪ SDCP was managed in it first stage (2001-2009) as a government program under CONAMA's administration and coordination. ▪ Project was proposed/ mandated (first stage) from the public sector/ central government (top down approach) ▪ Project operated under a multi level governance model characterised as: inter-sectoral[26] (public), multi-level (public national, regional, municipal) and multi-stakeholder

[26] CONAMA, SERNATUR (Chilean Tourism Service), CONAF (Chilean Forestry Agency), Ministerio de Defensa (Ministry of Defense), Ministerio de Bienes Nacionales (Ministry of National Assets), FOSIS (Chilean Solidarity and Social Investment Found)

	▪ TCT sections are owned, operated and maintained by local organizations, provincial authorities, national agencies and municipalities across Canada ▪ The TCT does not own or operate any trail	▪ SDC Project has been managed since 2010-onwards by a non-profit private foundation (Sendero de Chile Foundation) which was proposed and created from the State ▪ SDC Trail segments are managed and operated locally under the coordination of the SDCF
Role of international Organisations (UN and big NGO´s)	▪ NO Funding from International organisations ▪ TCT Provincial P (NB Trails Council) is working to connect Fundy Biosphere (UNESCO-MAB) with TCT trail inside the reserve 27)	▪ SDCP received funding from UNDP-GEF SGP between 2004 and 2007
Stage of Development	▪ Currently nearly 20,500 km / (86%)	▪ Currently nearly 2,300 km / (27%)
	▪ When completed nearly 24,000 km	▪ When completed nearly 8,500 km (date not specified)

Table 1 Summary of similarities and differences between TCT and SDC

Source: adapted from Fundación Sendero de Chile (2014 c), Trans Canada Trail (2014 a)

[27] (*Annual Report 2009-10, p.14 / Annual Report 2010-11 / Annual Report 2013-14)*

Chapter 5. Multi-level and multi-stakeholder collaboration and partnership in TCT and SDC

Collaboration and partnership among trail project stakeholders are recognised within the literature as essential to seeing greenways and trails projects through to completion (Erickson 1997, 2004; Rottle 2006; Ryan & Hansel 2004; Searns 1995). As identified in chapter 2, this can be achieved through public-private agreements and often requires multi-disciplinary inputs to planning, particularly when the projects are multi-purpose and have various end users. Stakeholders can include the public, various levels of government, as well as the private sector, such as corporations and businesses (Searns 1995, Flink et al. 2001). All parties must set and agree to clear goals, terms and conditions and implement all plans and procedures to everyone's mutual benefit (Castree et al. 2013). In order to achieve this in a respectful way that is founded on trust, equality and reciprocity, communication should underlie all aspects of a project (Hemmati 2002). Mutual accountability and mutual shared benefits can only be obtained and ensured by maintaining on-going, freely flowing information exchange among stakeholders (Ahern 1995, Ansell & Gash 2008, Hemmati 2002, Searns 1995). As discussed earlier (section 1.1) there is a paucity of literature addressing collaboration and partnerships in the context of large-scale greenways and trails projects. Informants participating in the present study confirmed that active collaboration and strong partnerships amongst stakeholders were essential for the TCT and SDC to fulfill their goals. A major contribution of this study to the greenway literature and to our appreciation of G3+ projects in particular is identifying some of the key factors that influenced multi-stakeholder collaboration and partnerships in these two case-studies.

5.1 Factors influencing multi-level and multi-stakeholders' collaboration and partnerships in TCT and SDC

Using the data analysis procedure described in chapter 3 Methods (Section 3.2), different factors influencing stakeholder collaboration and partnership arrangements were identified with regards to the TCT and SDC projects. These were organized into two categories: (1) support and incentives; and (2) mutual benefits (co-benefits).

5.1.1 Factor 1: support and incentives

Stakeholder partnerships and collaboration were closely related to the existence of organisational and governance structures that provide support and incentives for participation. Two aspects of this factor were particularly influential: i) stakeholder access to technical assistance; and ii) stakeholder access to funding.

5.1.1.1 Stakeholders' access to technical assistance

Based on the analysis of reports and interviews, technical assistance was found to be an important factor for motivating the collaboration and partnerships of a variety of local stakeholders in both case studies. Interestingly, the concept of technical assistance is understood differently in each of the case study contexts.

Trans Canada Trail

In the case of the TCT, stakeholders included local trail organisations (hereafter local trail builder groups), most of them volunteer driven, which are responsible for designing and building trail segments. TCT's President and CEO, Deborah Apps, described these groups as the "lifeblood of the Trail" (The Globe and Mail 2011, p.5; 2012, p.3). As explained in the TCT Strategic Plan 2012-17 report and also mentioned in interviews and annual reports, the TCT – as an organisation – understands the provision of technical assistance as supporting provincial and territorial partners and their respective local trail builder groups by assisting

them in building their capacities in trail design, planning, building, management, and maintenance oriented towards the TCT's 2017 Connection Plan (Trans Canada Trail 2012d). The Connection Plan involves linking all Canadian provinces and territories through the TCT's greenway network. Further, the TCT provides its partners and local trail builder groups with guidelines and a variety of tools for the improvement of different aspects of greenways and trails development, including water-trail sections, equestrian trail design, cross-country skiing, and signage issues (Trans Canada Trail 2011a, Murphy, J., 2013 pers. comm.). The TCT also provides assistance in the form of workshops where dialogue between provincial and territorial partners is enhanced through, for example, the establishment of round tables in order to share best practices on topics related to community engagement, trail design and signage, and other themes concerning the TCT's 2017 Connection Plan (Trans Canada Trail 2010-2011, 2012d; 2012-2013, Murphy, J., 2013 pers. comm.).

> "I think when you ask a group to take on such a monumental task and they have no basis to start from (…) it's very difficult. So when you give them a tool like the concept plan or the guidelines and tell them "this is what you need to consider when you develop a trail, that's very important" (Murphy, J., 2013 pers. comm.).

Several informants were in agreement that large-scale greenways projects, such as the TCT, require active collaboration and strong partnerships at lower levels of implementation for achieving success with respect to the connection objective (Murphy, J., 2013 pers. comm., Delgado, E., 2013 pers. comm., Infante, S., 2013 pers. comm.) Consequently, the TCT works closely with different groups to achieve mutual goals (Murphy, J., 2013 pers. comm., Senécal, R., 2013 pers. comm.). For example, the TCT has partnerships with the International Mountain Bicycling Association (IMBA) of Canada and Parks Canada Trail Care Crew. These partnerships provide resources and technical assistance in the form of workshops on sustainable trail design for local trail builder groups (Trans Canada Trail 2012-2013, p.16, ;

Murphy, J., 2013 pers. comm.). Another way in which the TCT has provided technical assistance for its partners has been in resolving private and First Nations land crossing conflicts and issues related to trail management and government relations (Trans Canada Trail 2012d, p.4). For example, the TCT developed as part of the TCT's Trail-building Guidelines, a conflict management strategy which provides trail managers with a progression of measures and a systematic approach to minimising potential conflicts. These include: identifying the nature of the conflict, and engaging with affected user groups, among many others (Trans Canada Trail 2011a). These efforts are consistent with the TCT's mission:

> "We will promote and assist in the development and use of the Trans Canada Trail by supporting success at the local level in the creation of this network" (Trans Canada Trail 2012d, p.2).

Other examples of how the TCT provides technical assistance to its partners and trail builder groups include the hosting of a national trail leadership roundtable with Parks Canada in November 2010. This initiative brought together 49 leading trail experts from across Canada. These opportunities allow people to talk and share their visions about what needs to happen to increase capacity building from a trail development perspective (Trans Canada Trail 2010-2011, p.7). The TCT also organised a meeting in February 2013 that brought together provincial and territorial partners to share their best practices (Murphy, J., 2013 pers. comm.). According to Jane Murphy:

> "I think it resonated with a lot of partners across the country because they were finally going "oh, we're learning from each other." (Murphy, J., 2013 pers. comm.)

Sendero de Chile

In the case of the SDC, technical assistance has been mainly provided to local stakeholders, including local level organisations and volunteer groups (Fundación Sendero de Chile 2013, p.2, Delgado, E., 2013 pers. comm.). Technical assistance takes the form of building local stakeholders' knowledge and capacities in matters related to multiple activities, such as ecotourism development, environmental education, and heritage conservation programs associated with the SDC's multi-use trail development. This has included, for example, massive training programmes. More than 80,000 people were involved in annual environmental education programs between 2002 and 2012, and 12,300 people participated in these programs between the years 2010-2012 (Fundación Sendero de Chile 2013). Between 2010 and 2013, 39 environmental programs were implemented for volunteer groups collaborating with the SDC. Through these programs, over 844 volunteers have been incorporated into the SDC project (Fundación Sendero de Chile 2013, p.2).

Another initiative related to the SDC project was undertaken jointly with support from the multi-lateral Global Environment Facility / Small Grant Program (GEF/SGP), implemented by UNDP-Chile. This initiative included capacity building programs in the areas of heritage conservation and ecotourism development in several local communities in different regions of Chile (Fundación Sendero de Chile 2013; UNDP GEF-SGP n.d). Twelve projects were approved and executed, providing technical assistance to local organisations and local tourist operators among different stakeholders associated with SDC's trail segments (Fundación Sendero de Chile 2013, p.2; Ministerio Secretaría General de la Presidencia 2005; UNDP GEF-SGP n.d)

5.1.1.2 Stakeholders access to funding

Another factor influencing multi-stakeholder participation was the availability of funding opportunities for different stakeholders. For both the TCT and SDC, funding has

come mainly from the public sector and in a smaller percentage of cases from the private sector, especially in the case of SDC, as shown in Figures 23 and 27 below.

Trans Canada Trail

In the case of the TCT, funding is essential for the support and enhancement of provincial and territorial partner capacities, and their respective local trail builder groups (The Globe and Mail 2014, p.5, Murphy, J., 2013 pers. comm.). As Richard Senécal, executive director of the TCT Québec Council explains, funding opportunities are fundamental for both enhancing the participation of local trail builder groups and for the development of trail segments. According to Mr. Senécal:

> "In Québec since 1998, TCT has funded 75 projects with financial support for about 6 million dollars, which is interesting. If you focus only on building projects, TCT have funded 4 million dollars as investments for the trail…this is huge!" (Senécal, R., 2013 pers. comm.).

Since the TCT's inception in 1992, the Canadian government, through the Ministry of the Environment, the Parks Canada Agency, and Canadian Heritage, has been highly supportive of the project (Trans Canada Trail 2010-2011) which in turn has been fundamental for the success and advancement of the TCT over the years. For instance, in 2004, the Federal Government, through the Department of Canadian Heritage, provided a grant of CAD $15 million for the TCT to fund trail building activities at the local level (Trans Canada Trail 2007-2008). In 2010 the Government of Canada announced further funding of CAD $10 million for the TCT through the Parks Canada Agency (Trans Canada Trail 2010-2011). This funding provided grants to fund local level construction projects across the country. In fact, with these funds the TCT contributed to a total of 134 trail construction projects and 23 engineering studies across Canada during the period 2004-2010 (Trans Canada Trail 2010-2011, p.4). As stated by Deborah Apps:

> "We are delighted to be able to provide these grants to trail groups, as a result of on-going funding for the development of the Trans Canada Trail from the federal government's Department of Canadian Heritage. All of these trail projects move us closer to our goal of connecting the trail from coast to coast to coast by 2017" (Trans Canada Trail 2011b).

Additional support for the TCT 2017 Connection Plan has come from the Canadian government. Former Prime Minister Stephen Harper together with his wife, the TCT's Honorary Campaign Chair, Lauren Harper, announced that the Federal Government, through the administration of Parks Canada, would match funding to the TCT worth up to CAD $25 million over the four year period from 2014 to 2017 (The Globe and Mail 2014). This agreement is to provide one federal dollar for every two dollars raised by the TCT (The Globe and Mail 2012, p.3; 2014, p.5).

Municipalities also play an important role in providing funds for the construction or maintenance of segments of the project. The TCT would not be at the current stage of development without the financial support of municipalities (Murphy, J., 2013 pers. comm.)

> "Yes, typically municipalities…again, it varies across the country, but usually… because our funding model is at 50%, we provide up to 50% funding. Using this past year [2012] as an example, the municipalities have typically been the matching funding partner for the project. So funding is another critical example of where they come into play. In some cases it's a volunteer group that applies and the matching funding comes from the municipality, and in other cases it's been the municipality that puts in the funding request"(Murphy, J., 2013 pers. comm.).

Other sources of revenue for the TCT are private donations and memberships. These revenues play an important part in support for the project. The following graphs, Figures 21, 22 and 23, illustrate how the TCT's funding has evolved and been distributed over the period of 2008-2014, and the growing share of total funding that private donations represent.

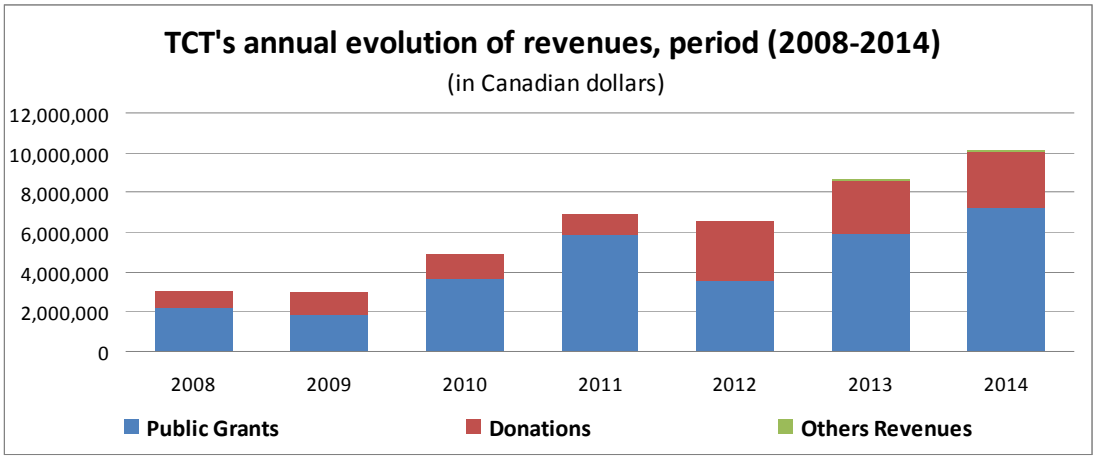

Fig. 21 TCT's annual evolution of revenues, period 2008-2014

Source: own elaboration based on TCT Annual Reports (2008-2014)

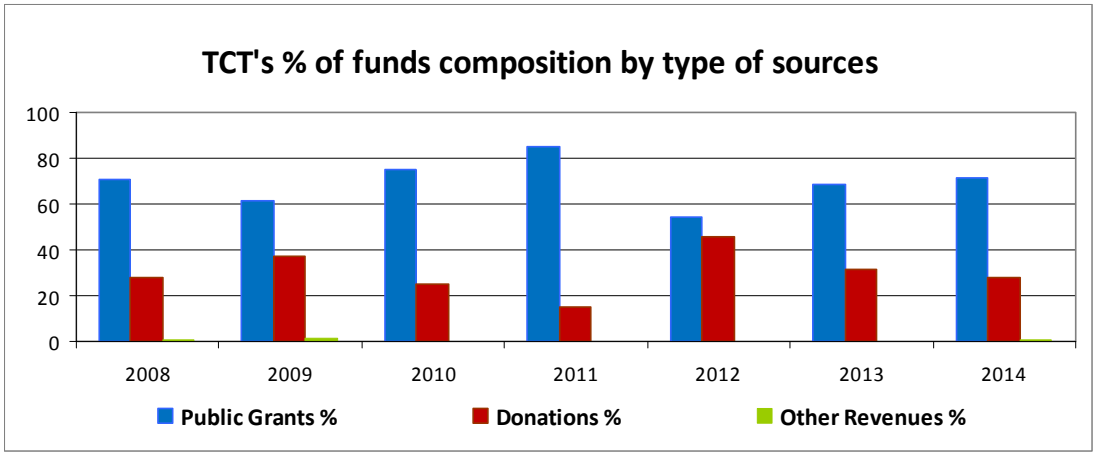

Fig. 22 TCT's % of funds composition by type of sources

Source: own elaboration based on TCT Annual Reports (2008-2014)

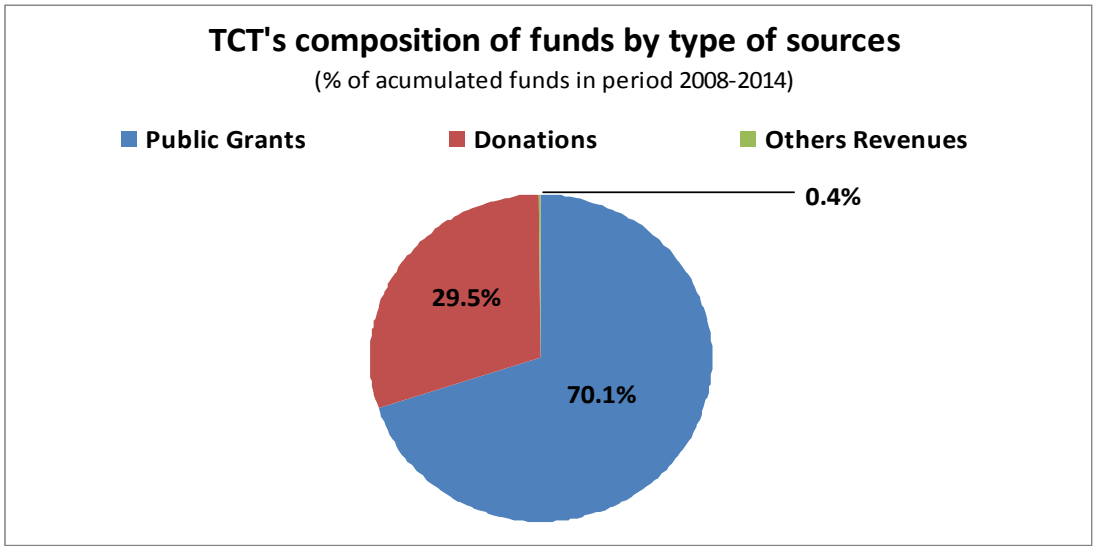

Fig. 23 TCT's composition of funds by type of sources

Source: own elaboration based on TCT Annual Reports (2008-2014)

Revenues were classified into three types according to the source or the origin of the funds. Incomes coming from the public sector were categorised as Public Grants (PG), which are contributions from the federal government and some of its agencies, e.g. Parks Canada and Canadian Heritage. The second classification corresponds to donations (D) which include donations from individuals, corporations, and foundations. The third type of revenues was classified as other income (OR) which have different sources, such as memberships, product sales, investment income, licenses, and royalties, among others.

With respect to the evolution of the total income of the TCT project between the period of 2008-2014, Figure 21 indicates that these revenues gradually increased over time, with CAD $3 million in 2008 increasing to CAD $10 million in 2014, with the exception of a drop in these funds in 2012.

Regarding the evolution of PG revenues, these were clearly the most relevant when compared to the other two types of income (D and OR). This important relationship is shown in Figure 23, which indicates the percentage of accumulated revenues (PG, D and OR) during the period of 2008-2014. The PG represents 70% of revenues during this period, compared

with D reaching 29.5% and OR which provide only 0.4% of revenue accrued during this period.

Regarding the evolution of D, it can be observed that donations have remained relatively stable at around 30% between 2008 and 2014, with the exception of 2011. Though there was a drop in revenues, falling to 15% of the total income that year, we can see a strong increase in D revenues in 2012, reaching 46% of total funds for that year.

Regarding the income type OR, Figures 21 and 22 show that during the period 2008-2014, these revenues were of low relative importance, exceeding only 1% of total revenues in 2008 and 2009.

Figure 24 provides a summary diagram of the flow of funds of the TCT financing system with its provincial and territorial partners and other associated stakeholders.

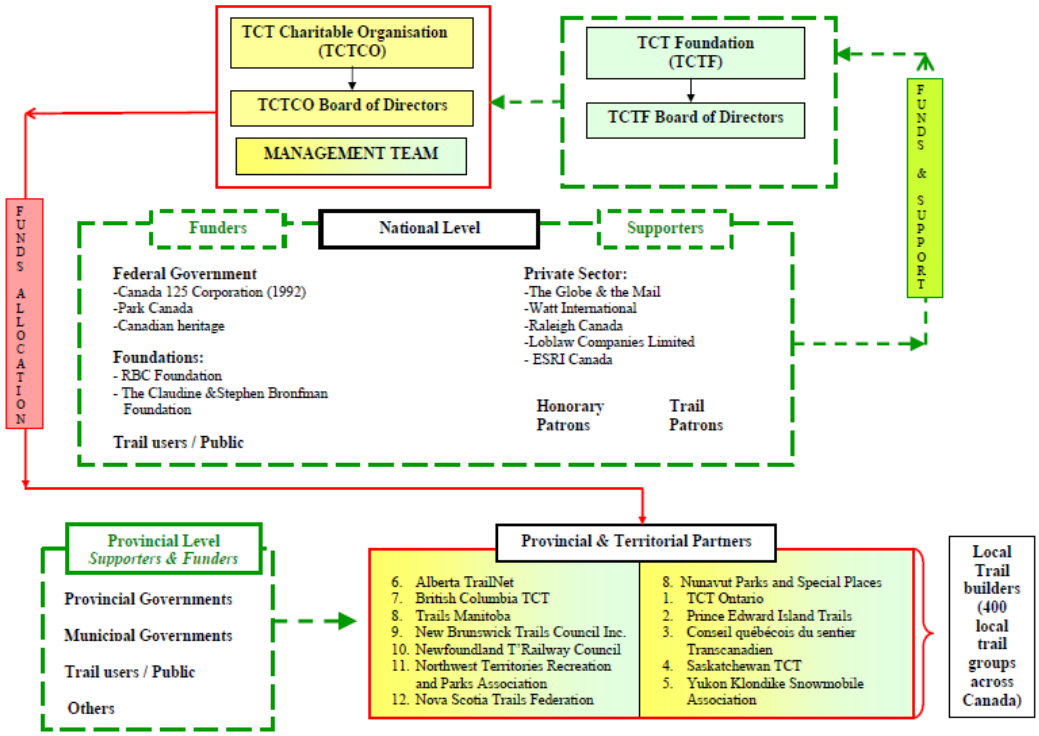

Fig. 24 TCT Financing Scheme

Source: own elaboration based on interview data and consultation of annual reports

Sendero de Chile

Similar to the TCT project, the SDC sources of funding have come mainly from the public sector and to a much lesser extent from the private sector. The project has had two different administrative models: the government program under the National Commission for the Environment (CONAMA for its acronym in Spanish) from 2001-2009, and the SDC Foundation from 2009 to today, as shown in Figures 25, 26 and 27 respectively. Despite similarities to the TCT in the sources of funding and the management model, especially after 2009, there are some differences.

Figures 25, 26, and 27 below present information concerning the amount and composition of revenues raised by the SDC project. Revenues were classified into three types according to the source or the origin of the funds. Incomes coming from the public sector were separated into two groups: Public Grants (PG) and the contribution of Other Public Revenues (OPR). The PG corresponds to contributions of both direct and competitive funds coming from centralized government departments, i.e. funding from CONAMA at an early stage (2001-2009) and then from the Ministry of the Environment (MMA for its acronym in Spanish) from 2010 onwards. OPR are shaped by the participation of SDC in the allocation of funds coming, for example, from regional government entities such as the National Fund for Regional Development / *Fondo Nacional de Desarrollo Regional* (FNDR, for its acronym in Spanish), provincial governments, municipalities, state enterprises and other public services (Ministerio Secretaría General de la Presidencia 2005). The third type of income is Other Revenues (OR), which are non-public revenues obtained through contributions from NGOs, international organizations, or private organizations. The evolution of the SDC's project total income can be understood in terms of three stages during the period of 2001-2015 as is shown in Figures 25 and 26.

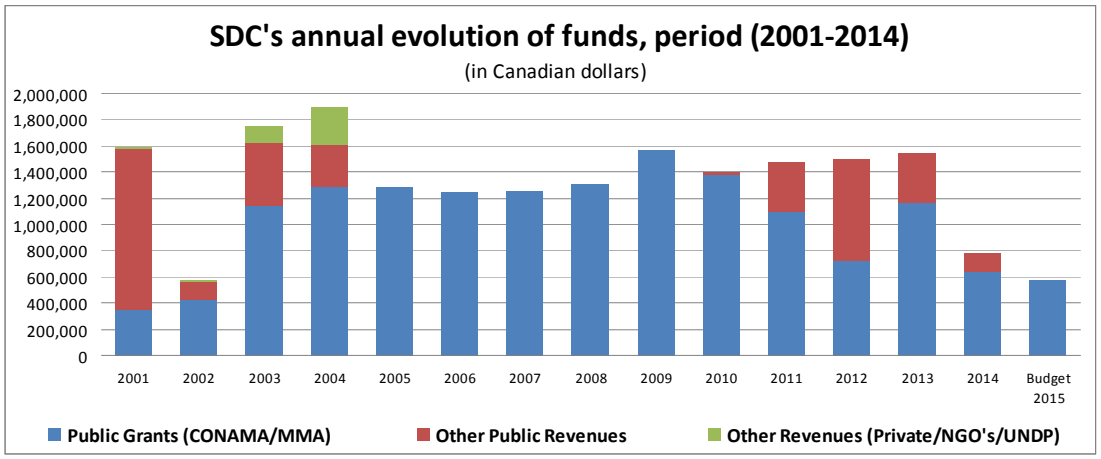

Fig. 25 SDC's annual evolution of funds, period 2001-2014

Source: own elaboration based on Ministerio Secretaría General de la Presidencia (2005), Infante, S., (2015 pers. comm.)

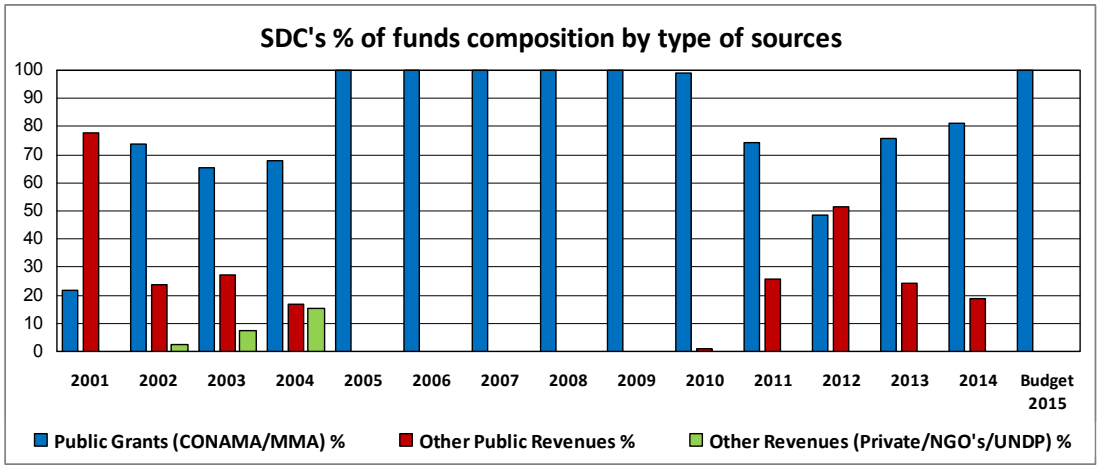

Fig. 26 SDC's % of funds composition by type of sources

Source: own elaboration based on Ministerio Secretaría General de la Presidencia (2005), Infante, S., (2015 pers. comm.)

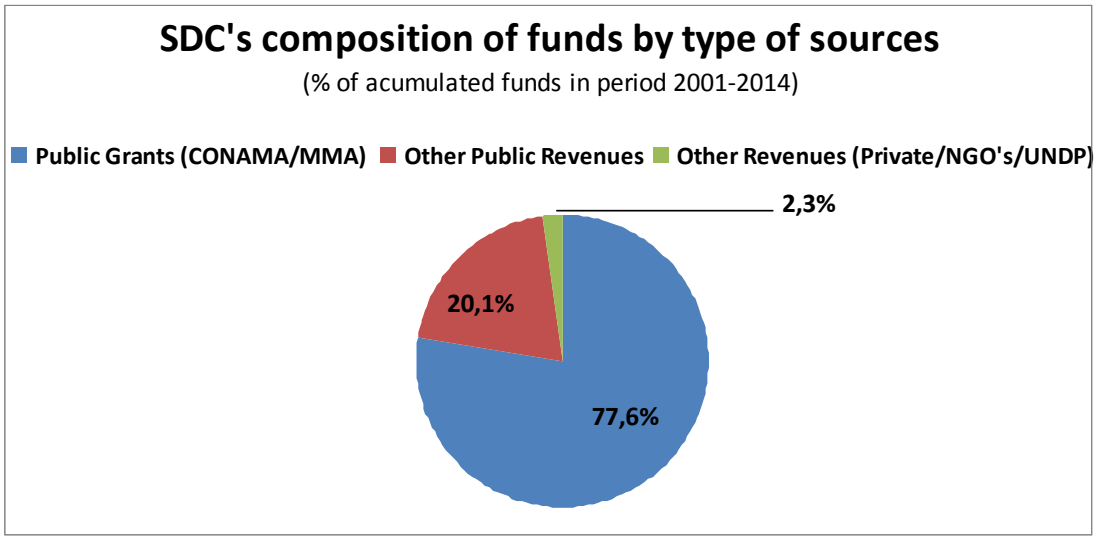

Fig. 27 SDC's composition of funds by type of sources

Source: own elaboration based on Ministerio Secretaría General de la Presidencia (2005), Infante, S., (2015 pers. comm.)

The first stage, between 2001 and 2004, corresponds to a growth phase. In this stage revenues reached the highest annual amount within the entire study period, when in 2004 CAD $1.9 million was contributed. Also at this stage, the SDC was linked to the greatest variety of sources or types of income as indicated in Figure 25, when the SDC received revenues from PG, OPR, and OR.

The second stage, between 2005 and 2013, was a period of relative stability in the total revenues observed, with an annual average of CAD $1.2 million, ranging from a minimum of CAD $1.2 million to a maximum of CAD $1.6 million per year. These were concentrated exclusively on PG between 2005 and 2009, whereas between 2010 and 2013 OPR reappears, allowing stability of total revenues in response to the reduction in PG.

The third and final stage, between 2014 and 2015, is seen as a phase of contraction of total revenues, with amounts of almost CAD $0.8 million and a budget of $0.6 million, respectively, as a consequence of the sharp reduction in PG and OPR.

In the period of 2001-2014, the accumulated incomes of the SDC have come to 98% from public sector sources (PG plus OPR). PG have been the most important and consistent sources of income during the whole period, while OPR have been relatively unstable and intermittent. OR, which constitute only 2% of the accumulated income in the period studied, were not significant for the project, especially in the early stage of the project. Even in the year of greatest importance (2004) contributions from these revenues sources did not exceed 15% of the annual total.

Additionally, and unlike the TCT, the SDC has received funding from the GEF-SGP, implemented by UNDP-GEF in Chile. In 2004 UNDP-GEF-SGP delivered around USD $ 200,000 for 12 approved heritage, conservation, and ecotourism projects executed for the period 2004-2007 (UNDP GEF-SGP n.d). These projects were associated with the SDC trail segments and focused on development in local communities in several regions of the country (Ministerio Secretaría General de la Presidencia 2005; UNDP GEF-SGP n.d, Delgado, E., 2013 pers. comm.). As expressed by the SDC Foundation executive director:

> "…this [UNDP-GEF/SGP funding] was a very interesting experience as we were able to bring in resources into local organizations for the development of the SDC" (Infante, S., 2012 pers. comm.).

Figure 28 provides a summary diagram of the flow of funds through the SDCF financing system. It also shows its various partnerships with different stakeholders and supporters.

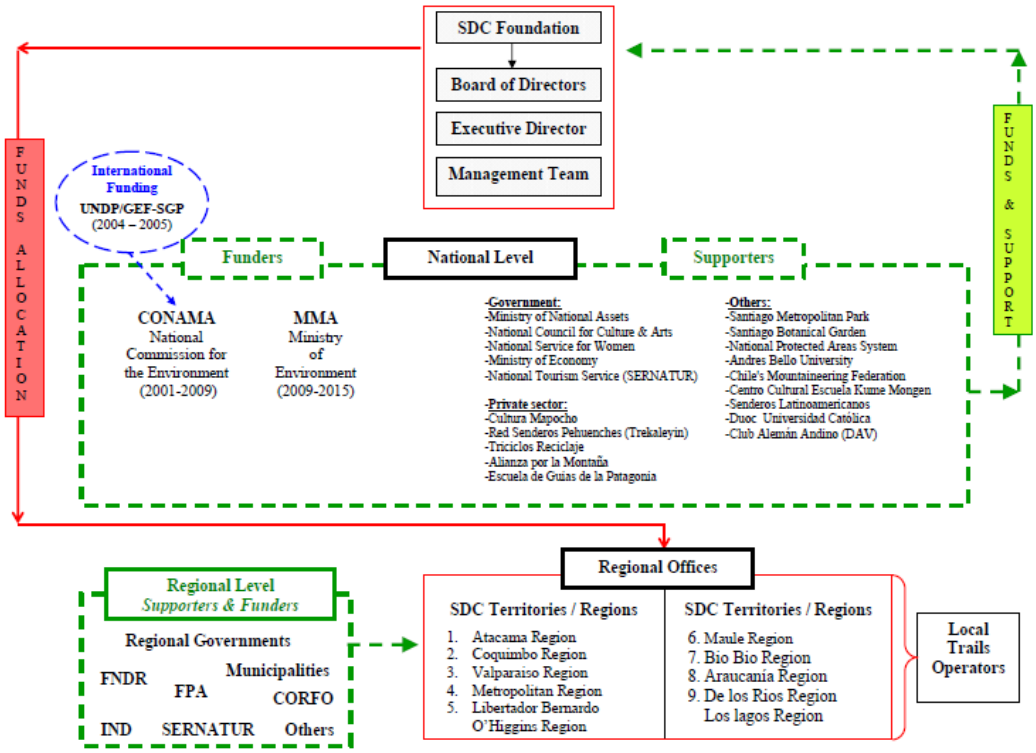

Fig. 28 SDC Financing Scheme

Source: own elaboration based on interview data and consultation of SDCF reports and website

5.1.2 Factor 2: mutual benefits

Stakeholder participation in both the TCT and the SDC was also related to the mutual benefits associated with the development of these projects. Mutual benefits, in the context of multi-use greenways, can be understood as: the advantages obtained by two or more stakeholders and/or participants associated with these projects, as well as the mutual benefits obtained between users, the environment, and the cultural landscapes associated with the greenways and trail segments. This works as a sort of ecosystem itself, helping to sustain several functions that these greenways provide to both nature and people (Ahern 2004; Auckland Council 2014; WMSRDC 2012). For both case studies, these benefits were mainly associated with local economic and social development through tourism and recreational activities linked to greenways and trail segments, users, and local businesses. Mutual benefits were also identified with the visibility that greenways and trail segments provide for local trail

builder groups, tourism operators, and other stakeholders (Murphy, J., 2013 pers. comm.; Senécal, R., 2013 pers. comm.). Thus, greenways and trail networks operate as a promotional platform for tourism, which also helps to enhance local cultural identity (Murphy, J., 2013 pers. comm.; Licata, J., 2013 pers. comm.; Sénecal, R., 2013 pers. comm.). I also found mutual benefits associated with the building of ties and collaborative work among stakeholders with whom the TCT and SDC share common goals. (Fundación Sendero de Chile 2012, 2013; Ministerio Secretaría General de la Presidencia 2005, p.47; Trans Canada Trail 2012-2013, p.16; 2014b).

5.1.2.1 Local social-economic development and cultural identity

Trans Canada Trail

Since the beginning, but especially in recent years, the TCT has been recognised nationally and internationally as a recreation and tourism destination (Trans Canada Trail 2012-2013). Consequently, this initiative has served not only as a platform for local economic development across Canada but also as a tool for social development by connecting people from different regions and provinces and also deepening individual connections with the nature and history of each specific place. The TCT's project vision has an important focus on both the promotion of economic sustainability and the power of green development and social development across different regions, provinces, and territories of Canada (Trans Canada Trail 2012d).

More specifically, local social-economic development is one of the five benefits encouraged and supported by the TCT, as reflected in different documents published by TCT, e.g.:

> "National Legacy: creating a sustainable gift for future generations; Health: inspiring active living and transportation; Environment: preserving green space and promoting conservation; Education: deepening awareness of Canada's history, culture and natural heritage; Economic Development:

> stimulating tourism and creating jobs" (Trans Canada Trail 2012-2013, p.19; 2014a)

Since the beginning, the TCT has also encouraged the connection of isolated communities, including First Nations communities, through its national trail network, providing spaces for sharing social and cultural elements as well local economic opportunities with neighbouring communities and visitors. These social, cultural and economic interactions provide sources of revenues for communities connected by TCT (Trans Canada Trail 2011a, 2012d), as is suggested below:

> "The Trail [TCT] provides a unique opportunity for First Nations to prosper from sustainable economic development within their traditional territories while sharing their cultures and important histories of ancient trail networks." *Tara Atleo, TCT board member and Manager of the Ahousaht First Nation WildSide Trail* (The Globe and Mail 2013, p.7).

Social and economic developments are recognised by different provincial and territorial partners, authorities, and decision makers associated with the project as key benefits of the TCT.

> "Recreational trails, including the TCT, are vital to our province. They attract visitors, help Albertans be more active, and foster a stronger connection with nature." *Richard Starke, Minister of Tourism, Parks and Recreation, Government of Alberta* (Trans Canada Trail 2013-2014, p.6)

> "We've got a lot of good work going on with the Trans Canada Trail. There's been growing interest in what the Trail means to the people in the communities. It makes them feel like they're a part of something bigger, like they're part of a national network … that's special" *Geoff Ray, executive director of Northwest Territories (NWT) Recreation and Parks Association* (Trans Canada Trail 2013-2014, p.20)

Other examples of TCT's commitment to the promotion of both local economic and social development are the building of ties and collaborative work amongst stakeholders associated with the project. Some examples are described in the strategic aims and outcomes contained in TCT's Strategic Plan 2012-2017. For instance, outcome 7 of TCT's Strategic Plan aims to attract new trail users by stating that the TCT will: "Develop and implement marketing strategies to promote the Trail to new Canadians and youth" (Trans Canada Trail 2012d, p.5). In the same spirit, outcome 9 aims to promote the achievement of the TCT as an iconic brand, by stating that: "TCT will: Attract visitors through partnerships with provincial/territorial and national tourism agencies" (Trans Canada Trail 2012d, p.5).

> "…we are building quite a bit of brand awareness regarding the TCT. We are becoming an organization that people want to align themselves with (Murphy, J., 2013 pers. comm.)

Consistent with this, the TCT is an active member of the Atlantic Canada Trails Association (ACTA), which is a regional partnership that includes government, tourism and local trail builder groups represented by four TCT Provincial Partners: i) Nova Scotia Trail Federation from Nova Scotia; ii) Island Trails from Prince Edward Island; iii) New Brunswick Trail Council Inc. from New Brunswick; and iv) Newfoundland T'Railway Council from Newfoundland and Labrador (Trans Canada Trail 2012-2013). ACTA has actively promoted the development of greenways and trails throughout Atlantic Canada as a way to generate social and economic benefits to people living in each of these provinces and especially stakeholders participating at the local level (Trans Canada Trail 2012-2013). More specifically, ACTA has made possible the development of tourism infrastructure and the improvement of trail segments, while supporting the analysis of the economic benefits of recreational trails in each of these provinces (Trans Canada Trail 2012-2013, p.16; 2014c).

As noted in the interviews and in the TCT reports, the TCT is dedicated to enhancing engagement while promoting a sense of ownership among people from local organisations (trail builders groups) working in the TCT trail sections across Canada at municipal and regional levels (Murphy, J., 2013 pers. comm.;Trans Canada Trail 2013-2014).

> "But the benefit to a community-based model is the engagement that you get and the ownership that you get. And that is just so critical with what we're trying to develop with the TCT. Community development and community engagement is key." (Murphy, J., 2013 pers. comm.).

As expressed by some informants the TCT also works as a platform to enhance the promotion and visibility of the cultural identity of people and places at different levels (i.e. local, regional, provincial and national). This, for example, is the case of the LP-PTDN in Québec.

> "Well about the identity, each city and each municipality has its identity in the first place. I give you an example. In Prévost they do a lot of activities for Saint Jean Baptiste, which is it main holiday. They do fireworks near it [LP-PTDN] and also exposition of arts. Another example, in Val David, the LP-PTDN bike path which is also a walking path is actually the main walking corridor, where many restaurants are near it, so it's very popular. Thus the identity for this city is that you can walk to the park which, it actually become like the figure of the "Place d´Armes" of the city, where the linear park becomes the main area in which people have access to meet with others and exchange their local culture" (Licata, J., 2013 pers. comm.)

This idea of the TCT working as a platform for the promotion and visibility of people's cultural identity works also for communities and / or trail builders that are not yet part of the TCT network and want to be part of it.

> "I think that, for a lot of organizations [trail builders] and communities that aren't part of it, [the TCT network], is a huge incentive. It [TCT] allows them visibility of their communities. As we [TCTF] are using 2017 as a date

> of connection people want to get onboard because they will build their celebrations for Canada's 150th anniversary around that. So, that certainly seems to be an incentive, they want to be part of a national legacy project that we are working towards becoming" (Murphy, J., 2013 pers. comm.).

Concerns were also expressed by some informants about the possibility of a loss or undermining of identity as a result of participating in a large scale project such as the TCT. This concern was raised in relation to some local trail builders associated with trail segments within the province of Québec under the umbrella of the TCT Québec Council (TCTQC). According to Mr. Senécal:

> "For these people, every time they meet with groups [local trail builders] talking about a national project or something like that…they are afraid, they are afraid to disappear, to loose their identity, so that's why it is important to work with each of them trying to adapt our development [TCT-QC] to their own situation and needs" (Senécal, R., 2013 pers. comm.)

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For the SDC, local economic development through the promotion of sustainable tourism and the participation of local stakeholders has been an important objective since the beginning of the SDCP, under CONAMA's administration and also after 2009 under the SDCF administration. For instance, under CONAMA's administration, component/objective 2 of SDCP stated: "Neighbouring communities of SDC trail sections shall develop projects of sustainable tourism and nature protection, maintaining the corresponding sections" (Ministerio Secretaría General de la Presidencia 2005, p.4). The promotion of sustainable tourism, ecotourism and local economic development have remained important goals for the project under the SDCF administration (Infante, S., 2012 pers. comm., Delgado, E., 2013 pers. comm.). For instance, between 2010 and 2013, within its nine project objectives, SDCF

highlighted two objectives oriented towards local economic and social development through ecotourism activities:

> **Objective 3**: "Constitute the Sendero de Chile as a link in the supply of ecotourism and cultural tourism in the country". **Objective 4**: "Integrate owners and local communities in the planning and management of tourism products related to the trail and in the distribution of profits generated, contributing to the development of small business and overcoming poverty in isolated rural locations" (Fundación Sendero de Chile 2010).

In this context and taking into account the importance that the SDCF has placed on the promotion of tourism (ecotourism) in trail segments, I can argue that one of the factors that has encouraged the participation of local stakeholders is the potential for the project to generate income for communities located in the various trail segments.

> "There are cases where, for example, environmental education topics are relevant and the approach by people to the project occurs in the interest of using a section of trail as a classroom for outdoor education, but I would say these are minor cases. In general there has been a prior interest of [local] stakeholders in the use of sections of the trail [SDC] and the interest to generate income through tourism" (Delgado, E., 2013 pers. comm.).

This focus on local economic development was identified by members of other public institutions that were part of national and regional boards of directors of the SDC Program. The significance of the SDCP as a source of income for local communities is captured in the following statement from the former INDAP national manager of rural tourism.

> "Rural people understood that the trail [SDC] could be an interesting opportunity to generate more income for them and boost their businesses even more" (Former INDAP national manager of rural tourism, 2012 pers. comm.).

Since its inception, the SDC has had the intention to serve as a link between isolated areas and communities of Chile. Part of the SDC objective, under both administrations, has been to preserve local customs and culture by facilitating the sharing of interesting stories of isolated rural people with visitors from within Chile and from other countries.

Interesting examples of cooperation agreements were identified through the research, in areas such as cultural tourism and ecotourism between the SDC and Pehuenches indigenous communities, located in the southern regions of Chile, Bio-Bio and Araucanía. These partnerships are aligned with the idea of enhancing local social-economic development and the strengthening of cultural identity. An example of this is the testimony given by Sergio Benites, who is a SDC ecotourism guide. Mr. Benites shares his experience working with schools and tourists visiting the SDC's Truful-Truful trail section within Conguillío National Park in the Araucanía region:

> "My job as a guide consists, among other things, of helping with the interpretation of the landscape here in the Conguillío National Park, helping school and college delegations with their projects ... another thing that motivates me in this work is the contact with students and with people from different countries." (Zona Cero Producciones & Canal 13 C 2009-2010).

Another example is the Trekalayin Ecotourism Trail Network, which is an indigenous organisation that offers walking tours and horseback riding, where visitors can share stories, meals, and experiences with local guides. Cooperation agreements are also evident between the SDC program and Pehuenche's indigenous community trail association network in Alto del Bío Bío in the south of Chile. This cooperation agreement was oriented to help consolidate the indigenous association as a recognised benchmark for community ecotourism in the Bío Bío region and aided indigenous rural communities in boosting their local economies and enhancing their social development.

Anita Huenupi, a Pehuenche indigenous women from the Huenupi rural tourism association who works in the Araucanía region offering cultural tourism to users and visitors of the Pehuenche indigenous trail network part of SDC, states:

> "I belong to a group of Pehuenche women working in cultural tourism as an alternative form of receiving income for our households ... we are dedicated to cultural tourism and when they [tourist guides or tour operators] say that visitors will come, we are ready to prepare lunch for them. We offer typical [Pehuenche] food which we produce and cook ourselves." (Zona Cero Producciones & Canal 13 C 2009-2010).

5.2 Summary

In this chapter the factors influencing multi-level and multi-stakeholder collaboration and partnership in relation to greenways development are presented. Two main factors identified were the availability of: 1) support and incentives; and 2) mutual benefits (co-benefits). Each of these factors is influenced in turn by a number of other factors which are examined in relation to each of the two case studies. Regarding support and incentives and sub-factors influencing these, such as access to technical assistance and funding, these are viewed differently in each of the case studies. In the SDC, technical assistance is closely related to environmental education while in the TCT it is oriented to building specific capacities to support the connecting plan, such trail design, planning and construction. This difference most likely reflects the different stage of development at both the country level (Chile is categorized as a developing country while Canada is a developed one) as well as the more advanced stage of development of the TCT as compared to the SDC. In regards to funding, for both initiatives funding came mostly from the public sector but the TCT has had a higher funding amount and more sustained funding over the years compared to the SDC. Mutual benefits – particularly those related to local socio-economic development (i.e. tourism

and recreational activities, human well-being, cultural identity – were found in both case studies.

This chapter is intended to contribute to expanding our understanding of the factors that could positively influence the development of greenways in various contexts. Future research should focus on further analysing ways in which these factors are enhanced to contribute to better targeted greenways planning and development.

Chapter 6. Discussion and Conclusion

This final chapter provides a discussion of the findings presented in chapters four and five in relation to relevant literature reviewed and presented in chapter 2. Two main sets of research questions are addressed:

i) how have the TCT and the SDC networks evolved over time, with reference to similarities and differences, and what challenges and opportunities have emerged related to the continued expansion of TCT and the stagnation of SDC?; and

ii) what factors (i.e. supports, incentives and benefits) have influenced the implementation and evolution of the TCT and SDC networks with respect to collaborations and partnerships with multiple stakeholders at different levels and across different sectors?

Connectivity as a key distinctive aspect for nationwide greenways (G3+)

As discussed in chapter 2, greenways are associated with different stages of development in their historical evolution (Brasier 2011; Rottle 2006; Searns 1995). The third and last stage is known as "Generation 3" (1985-onwards) which recognises greenways as multi-purpose in function to satisfy a variety of human and social needs as well as nature conservation objectives (Hellmund & Smith 2006; Jongman & Pungetti 2004; Searns 1995). The present study supports the idea that greenways continue to evolve and that nationwide interconnected multi-use, and multi-purpose greenways and trails networks clustered under a single project and country represent a new stage (referred to here as G3+) in the evolution of greenways. A key distinctive aspect of this new generation of greenways is the pursuit of connectivity.

The research conducted for this thesis showed that the TCT and the SDC share common ground with respect to their initial motivation and expected goal of connecting their

respective nations and inhabitants throughout the regions and/or provinces, territories, cities and towns using interconnected greenways and trails networks. Indeed, interviews and document analysis conducted for this research indicate that a key defining objective of these two nationwide greenways is their mutual emphasis on connectivity. As argued by Ahern (2004, p.45), "When greenways provide walking trail connections with other trail systems, their level of use and value is increased". That is the case with many greenway networks in North America, which began as single-purpose trail system and evolved to multi-purpose systems (Ahern 2004). This increase of value can be understood both as economic and social development.

Different strategies are more successful than others in achieving connectivity

Findings of this thesis research indicate that the TCT and the SDC have used different strategies to achieve their connectivity goals and the findings, presented in chapter 4, suggest that the TCT has been more successful than the SDC in doing so. The TCT project has been shown to have progressively increased its trail network over time throughout the country as indicated in section 4.1.4, Figure 15. This has been the result of a sustained commitment by the TCT to maintain the momentum of the project's connectivity goal and by developing a specific strategy to achieve this (Trans Canada Trail 2012d) .

The strategy used by the TCT to advance its connectivity goal was to take advantage of co-occurrence – that is, the coincidence of landscape elements such as cultural, natural resources, infrastructure and other features (Ahern 2002) – and develop collaboration and partnerships among various stakeholders from different levels and sectors. The TCT 2012-17 Strategic Connectivity Plan included the incorporation of extensive waterways, unused railways or tracks converted to trails (Rails to Trails) as well as urban or rural bike paths to advance its goal of connecting the nation from "coast to coast to coast". Through this strategy,

the TCT has implemented 86% of the proposed route (24,000 km) with only a gap of 5,000 km to complete and connect the planned route. The SDC, in contrast, only expanded its network during its first six years (2000-2006) and unlike the TCT project, the SDC lost the connectivity impetus from 2006 onwards. The SDC has currently only achieved around 25% of the planned route (8,500 km) and significant gaps remain to achieve its connection goal.

The TCT, in addition to planning its routes to take advantage of co-occurrence, has also developed collaboration and coordination between various stakeholders and specific sub-national greenways initiatives. Several authors noted that effective collaboration and coordination amongst various stakeholders and agencies, to achieve a common goal, is a key aspect in the successful implementation of greenways (Erickson 1997, 2004; Rottle 2006, Ryan and Hansel 2004, Searns, 1995). The strategy that the TCT developed in order to create partnerships with local trail builder groups has had a particularly important role in expanding the network. The TCT has also been successful in establishing collaboration and coordination with various sub-national initiatives across the country; for example, Vélo Québec / Route Verte and the LP-PTDN. In contrast, the SDC has not been successful in achieving its connection goal mostly due to a lack of collaboration and coordination at the national level where the different ministers involved were not able to find a model that facilitated the addition of new and alternative trail segments over time (such as the case of the Lonquimay-Lebu railway branch, discussed in section 4.2.5). Lack of coordination between government agencies and organisations has been identified by different authors, as an important barrier or impediment to greenway implementation (Erickson 1997, 2004; Rottle 2006; Ryan et al. 2006). Rottle (2006, p.173 citing Erickson 1997, 2004) stated: “Regardless of the size of the greenway vision whether it is between municipalities or between states, coordination between agencies and organisations is the biggest issue in greenway implementation”.

Connectivity matters for political and public support – a virtuous circle approach

Several studies have identified funding as the most fundamental factor for greenways development. As stated by Erickson (1997, p.15): "There is no cookie cutter approach that can ensure the success of a greenway system. However there are some common ingredients: commitment, grassroots support, strong leadership, a plan of action, education and yes…money". According to Brasier (2011), a key aspect in ensuring sufficient funding is political will or public support.

Based on the findings of the current research I argue that to sustain funding over time it is important to continuously advance towards the connectivity goal as this generates a virtuous circle that directly affects the level of political and citizen support these initiatives receive which in turn affects access to funding. This idea is supported by Ahern (2004) who highlights the value of connectivity to create wider political support and enhance the likelihood of sustainability over time. This means that the more a greenway initiative achieves its connection goal, the more public and political support it will have and the more it will contribute towards co-benefits such as nature conservation and the amelioration of environmental conditions at a landscape level. Using the TCT case, it could be argued that because the project has advanced towards it connectivity goal it has been able to promote an image of success. The TCT project is indeed achieving its major goal, namely connecting the country from coast to coast to coast. This in turn generates more interest among citizens, trail builders organizations and decision-makers to continue to support the TCT project, which allows the TCT to leverage more funding and include more partners which sustains the expansion of the project in both length and time.

Figure 29 below, depicts this concept of a virtuous circle that could assist proponents of greenways development in advancing towards their major goal of connectivity. The circle starts with the goal, which in both project cases was the connection objective – the resulting

network expansion is associated with achieving success – and a successful public image. The circle applies to a greenway project being able to continue to expand the network (connection) of greenways and trails by integrating them with others over time along the territory. As a result of the above (incorporation of new sections / segments to the network) the project acquires greater visibility and a positive image associated with a successful initiative, advancing towards its main goal. This image of success and the visibility of the project generates more interest and support for the project from both users (local citizens and visitors) as well as by trail builder groups involved. They become aware of the multiple benefits greenways and trail networks bring which translates to strong citizen support for this kind of project and increases political support at different levels. Various authors have argued that the more shared benefits are understood and appreciated by both citizens and other stakeholders, who play a role in the greenways development, the greater the political support greenways will have (Ahern 2004; Qualye 1996; Erickson 1997).

Once strong support and appreciation of these projects exists among citizens and trail builder groups, politician recognise the benefits these projects bring partners which increases the chances of getting more funding to the continued expansion of the network and a virtuous cycle is generated.

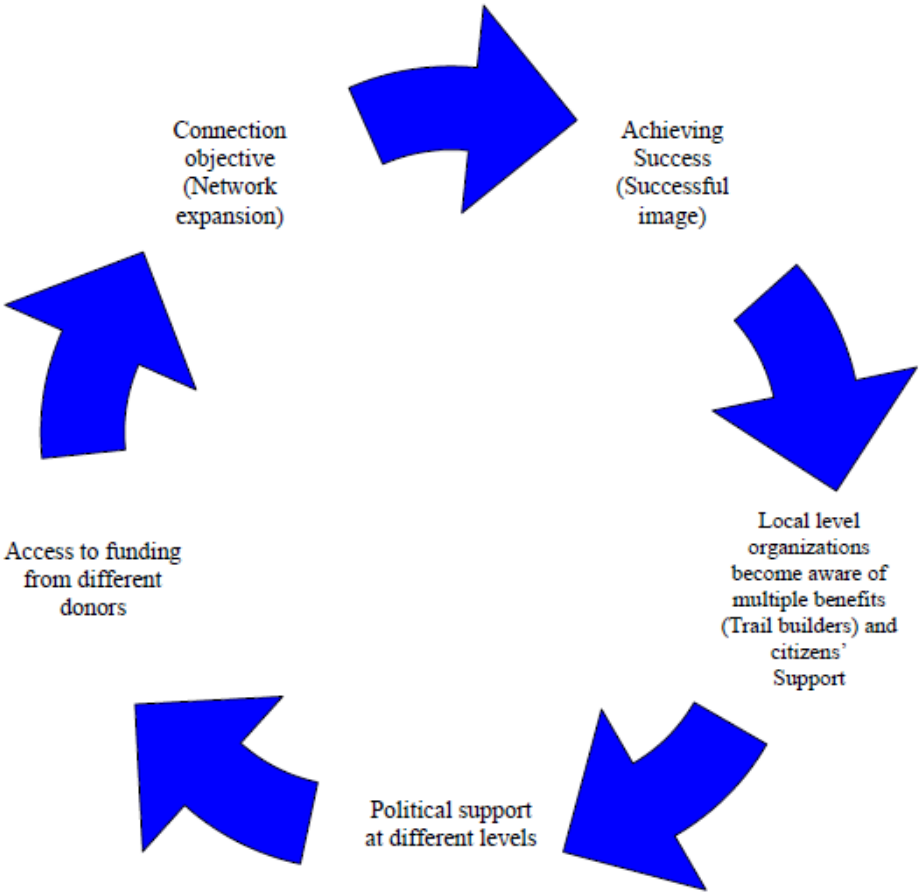

Fig. 29 Network expansion as a virtuous circle

Source: own elaboration

This research contributes to the literature on greenways by filling a knowledge gap in the respective experiences of Canada and Chile in nationwide interconnected greenways and trails networks development**.** This research also contributes to the field by extending the definition of greenways to include a new stage (G3+) in the evolution of the greenways and trails networks. In identifying the factors that influence multi-stakeholder collaborations and partnerships in the implementation of these nationwide interconnected projects, it also offers guidance to inform the development of similar projects elsewhere, but particularly in developing countries.

The study has shown that the development of nationwide interconnected networks of greenways requires the support of politicians and citizens. In achieving this, coordination

amongst stakeholders (levels and sectors) as well as creating awareness of the multiple benefits (social, health, environmental and economic) of trails are important factors for success. The TCT has been successful in its implementation because it was able to establish partnership ties with different groups, including local trail builder groups and provincial and territorial partners, as well as generating collaborative relationships with various sub-national initiatives across the country. Also multiple stakeholders have recognised and acknowledged the positive benefits greenways have in regards to health, in creating income, generating development opportunities, and enhancing the general wellbeing of society as a whole. In contrast, the SDC, despite several changes in their governance structures, has not yet been able to create the necessary collaborations and partnerships, either with different sectors or with decision-makers and the general public, to generate the momentum required to support further expansion. The resulting stagnation has meant that the virtuous circle that characterizes the expansion of the TCT has not been paralleled in the Chilean case.

In conclusion, the virtuous circle demonstrated by the TCT network development, provides instructive insights into the driving factors of success for G3+ projects. The SDC, similar to emergent and proposed trails elsewhere, need to recognize the importance of generating interest and support and then sustaining that through positive feedback effects. Equally, the TCT will soon require a revised strategy and renewed vision to sustain political and public support, and hence funding, and further expansion if its virtuous circle is to be sustained once the current target of 100% connectivity has been achieved.

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Appendices

Appendix 1

Trans Canada Trail honourable mention at the American Trails 2013 International Trails Award

▸ Download the news release for the 2013 National Trails Awards Winners (pdf 477 kb)

American Trails, P.O. Box 491797, Redding, CA 96049-1797 • (530) 547-2060
• Fax: (530) 547-2035 •

Honorable Mentions:

New Zealand Cycle Trail Team - The New Zealand Cycle Trail is over 1700 kilometers long, creating 20 great cycle paths across the country.

Trans Canada Trail - Over the past 20 years, Canada has constructed over 16,800 kilometers for the Trans Canada Trail, which connects every province and territory in the country.

Lifetime Service Award

Steve Elkinton's remarkable dedication and leadership has guided the development of the National Trails Systems. He has prompted interagency collaboration, fostered partnerships, encouraged communication, and strongly advocated for trail interests.

▸ *See more information and photos*

Best Trails State

The State of Missouri works with local, federal, and state agencies, as well as organizations, to encourage the design, construction, and maintenance of trails that offer a wide range of outdoor recreation opportunities.

▸ *See more information and photos*

Symposium@americantrails.org • www.AmericanTrails.org

Print Friendly

American Trails awarded the Latin American Hiking Network, at the 22nd International Trails Symposium, 2015

American Trails

Advancing Trails for the Betterment of our World

February 16, 2015

Red Latinoamericana de Sanderismo
Av. Genaro de Carvalho n°411/09 - Recreio dos Bandeirantes
Rio de Janeiro, 22.790-071
Brazil

To whom it may concern,

American Trails is pleased to announce that Red Latinoamericana de Sanderismo (the Latin-American Hiking Network) has been selected as the winner of the American Trails "International Partnership" Award!

This award recognizes an outstanding partnership—outside of the United States—that enhances the trails movement within a specific country or countries. The partnership can be between private organizations, public agencies, or public and private interests. The partnership must have contributed toward positive public exposure for the field of trail planning, design, or implementation.

Red Latinoamericana de Sanderismo was selected to win this prestigious international award based on their outstanding contributions to the trails movement in Latin America.

Winners of the 2015 National and International Trails Awards will be recognized for their incredible accomplishments at the Awards Banquet which will be held on May 19 during the International Trails Symposium in Portland, Oregon.

We hope you understand we must require that you refrain from publicly announcing results of the Awards Program, as the official announcement will be made at the National and International Trails Awards Banquet in May. After the Symposium, we will send out an official press release which you may distribute throughout your networks to celebrate this incredibly worthy achievement.

We hope that representatives of Red Latinoamericana de Sanderismo will be able to attend the International Trails Symposium so that they may be recognized for their efforts. We look forward to having the opportunity to present this award!

Best regards,

Pam Gluck
Executive Director
American Trails

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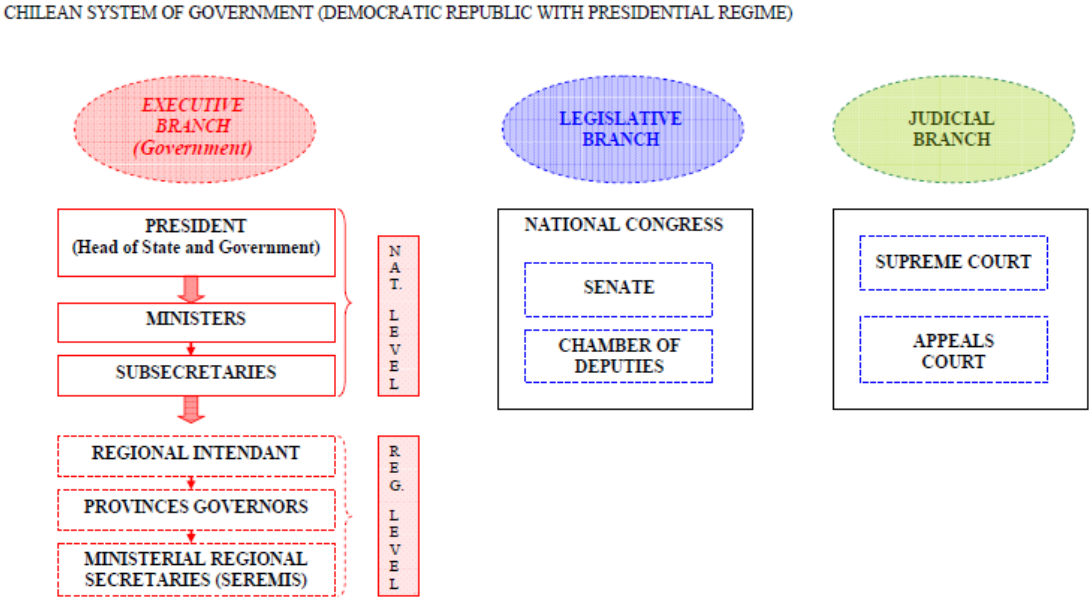
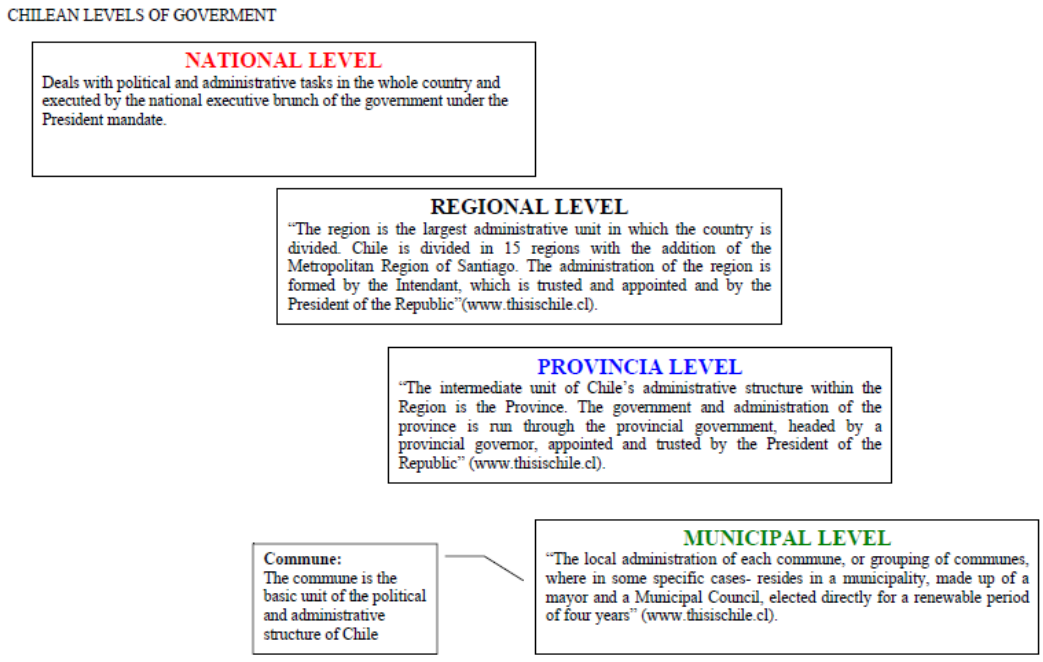
Appendix 2

The Chilean system of government

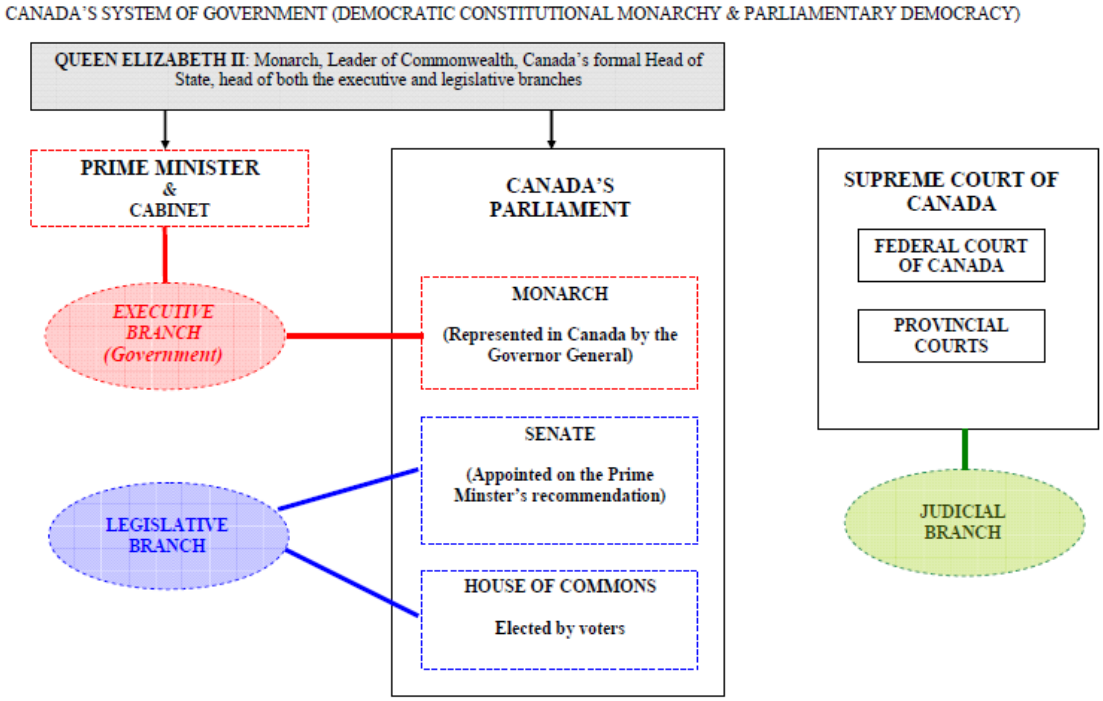


Source: adapted from: www.thisischile.cl and Chilean Library of Congress http://www.bcn.cl/



Source: adapted from: www.thisischile.cl and Chilean Library of Congress http://www.bcn.cl/

The Canadian System of Government



Source: (Library of Parliament, 2009; Government of Canada http://www.canada.ca/en/gov/system/index.html; http://www.gg.ca/document.aspx?id=3&lan=eng)

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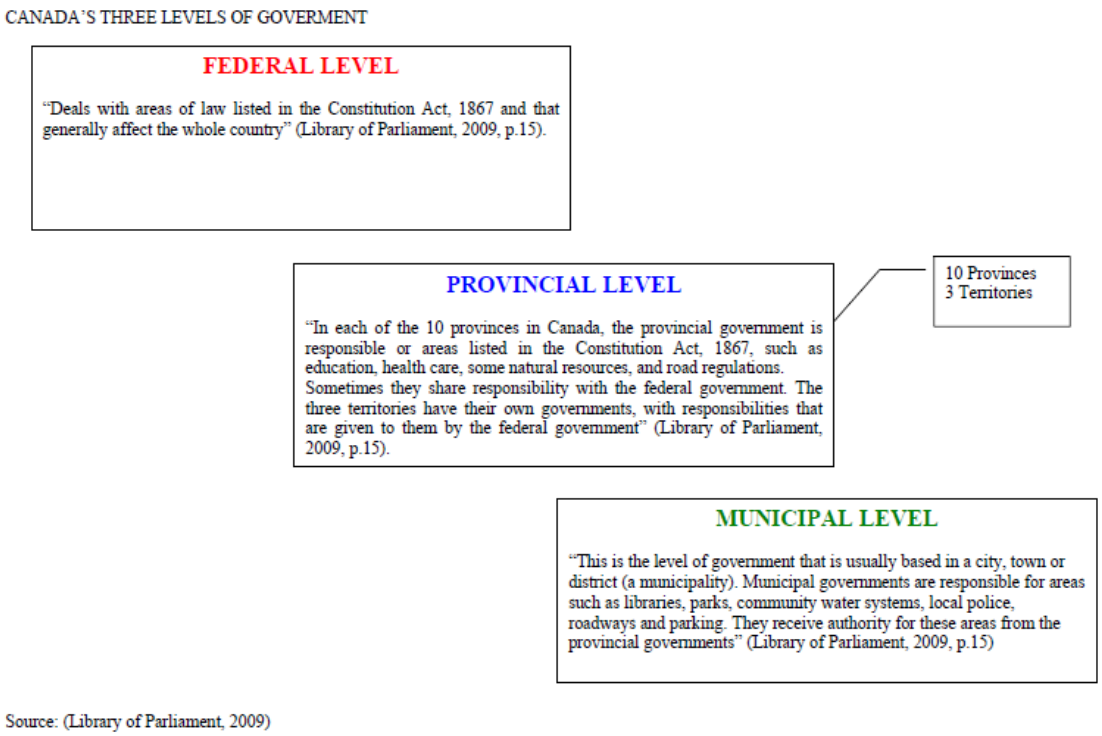
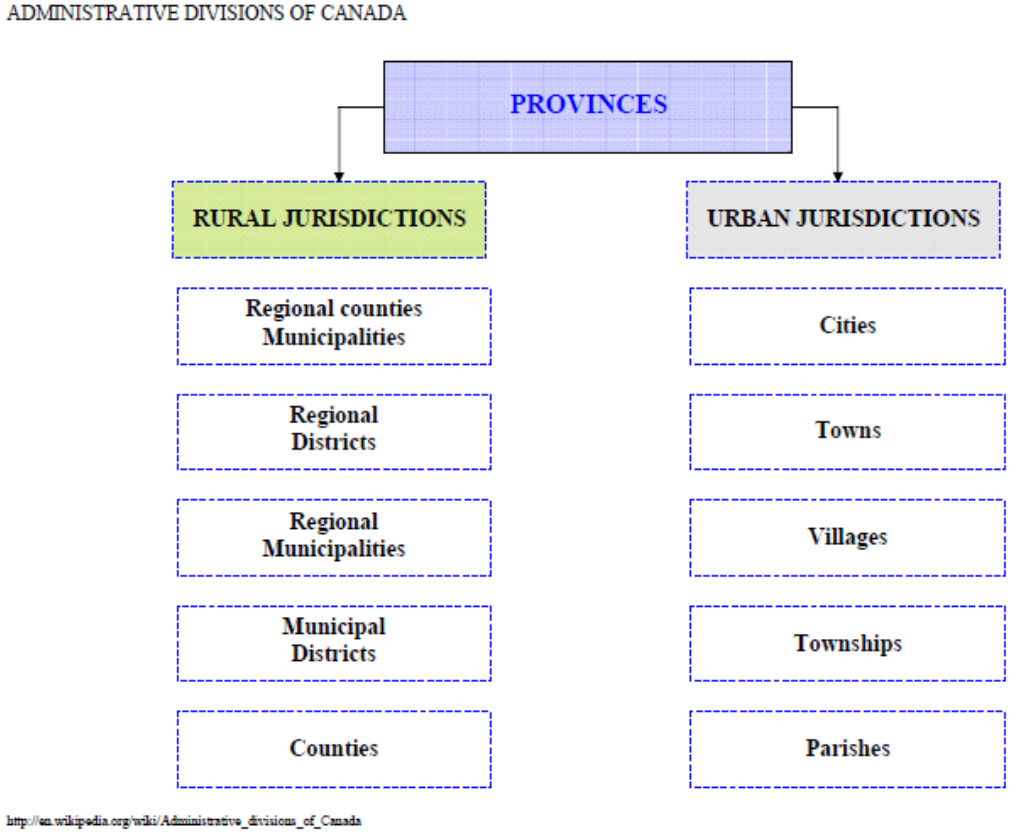


Source: (Library of Parliament, 2009)

Source adapted form (library of the Parliament 2009):



Source: Wikipedia Administrative divisions of Canada