The growing role of citizen engagement in urban naturalization: The case of Canada

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Introduction

Across Canada, an increasing number of volunteer-based community organizations are taking direct action to restore degraded urban habitats and transform barren open spaces into dynamic, natural areas. This movement, referred to as *community naturalization*, is about people taking collective action to achieve the shared goal of improving the quality of life and liveability of their communities by literally getting their hands in the dirt. It focuses on the act of planting trees, shrubs and wildflowers that are indigenous to the local bioregion and taking responsibility for their ongoing care and stewardship.

The benefits of this work extend far beyond the environment. Community naturalization can strengthen community ties, empower marginalized individuals and be a driving force behind renewed local economic development.

This paper discusses the key challenges that municipalities face in terms of protecting and caring for sufficient supplies of urban natural green space to meet ecological and social needs. It also profiles innovative examples of partnership-based approaches that are being undertaken to overcome these challenges. It concludes with a few observations on the principles that underlie successful partnerships and lessons learned that can be adapted by readers to their communities.

The ideas expressed are based on the observations and experiences of Evergreen, a Canadian Environmental organization that for over 14 years has supported the efforts of grass-roots organizations and decision makers across the country to create and sustain healthy, natural outdoor spaces in our cities and towns.

Cities without nature – Current context

The process of city building in North America has generally occurred with little or no regard for the ecological features and functions that support the natural world upon which we depend. To make way for streets, buildings and bridges, forests have been cleared, wetlands drained and waterways polluted or buried altogether. Compared to the rich habitats that once existed, the urban green spaces that remain are often fragmented natural features with little or no ecological value or monocultural turfgrass landscapes that offer minimal biodiversity. As a result, it is not surprising that urban dwellers often feel a sense of disconnection from the natural world and have developed the perception that cities and nature are distinct, separate entities.

This matter is of critical importance in light of the rapid urbanization trends that are occurring in Canada and other parts of the world. For example, over 80 percent of the current Canadian population is considered to be urban. In the past 30 years, the number of urban dwellers increased from 16 million to 24 million, a jump of about 50 percent (STATISTICS CANADA, 2005). As more and more people move to cities and towns, increased pressures are placed on remaining natural green spaces, both within existing built-up areas and beyond, in the urban fringe. Much of this new development is low-density sprawl that has been attributed to extensive displacement of natural features in highly populated areas, such as southern Ontario and the British Columbia's lower mainland (ONTARIO NATURE, 2005; SMART GROWTH BC, 2001).

Ensuring that the remaining significant natural green spaces are protected and stewarded, presents a growing challenge to municipal governments in Canada. Two major constraints that have been identified are

• limited financial resources; and
• lack of effective policy tools (EVERGREEN, 2004).

With regards to funding, this constraint has increased over recent years as senior levels of governments have downloaded responsibilities to local municipalities. This limits the ability of municipalities to purchase important green spaces when the opportunity arises, to ensure that they are protected in perpetuity. The lack of sufficient funds also challenges the ability of local governments to adequately maintain their existing inventories of parkland and other natural areas.

In terms of the policy constraint, municipalities from across the county indicated that planning tools such as provincial parkland dedication standards do not allow them to set aside enough green space during the development process to meet the needs of their growing communities (EVERGREEN, 2004; ALBERTA RECREATION AND PARKS ASSOCIATION, 2005). One study that focused on municipalities in Western Canada pointed out that there is a lack of appreciation of the importance of urban nature among municipal policy makers and elected officials. As a result, our natural capital is often sacrificed for short-term economic gain and current policies to protect it are largely insufficient (CANADA WEST FOUNDATION, 2004).

Responding to the challenge

In response to these challenges, citizens and community organizations are taking direct action to ensure that important natural green spaces in their communities are protected and restored. For example, Canada has seen an increased number of local land trusts and conservancies that are working with local partners to protect threatened green spaces. Land trusts are community based, non-profit organizations established for the purpose of protecting land for its natural, recreational, scenic or historical value. They may exist solely to protect one particular property or, more commonly, they may have a broader focus. The involvement of land trusts varies, depending on its goals. Some raise funds and purchase properties; others accept donations of land; others simply act as the organization that holds conservation easements without actually owning any land. Although the land trust movement is well established in other countries such as the USA, it is relatively new in Canada. Traditionally, land trusts have operated in rural or wilderness areas, but an increasing number are becoming active in urban and urbanizing areas (fig. 1).

Equally important, local organizations are also taking on an increased role in the care and stewardship of protected urban natural green spaces, through community naturalization – the focus of this paper. The term naturalization refers to a process of ecological restoration that involves returning an altered or degraded site to a more natural condition through the use of plants that are native to the local bioregion. Although definitions of native plants vary, for the purpose of this paper they are defined as species that existed in an ecological area prior to European settlement. The Society for Ecological Restoration (SER) defines ecological restoration as an intentional activity that initiates or accelerates the recovery of an ecosystem with respect to its health, integrity and sustainability (SER, 2004).

Community naturalization is more than planting trees to restore ecological health. When all stages of a project – from visioning and goal setting to implementation and ongoing care – involve citizens and organizations that represent the diversity of the local community, the resulting, social, health, economic and ecological benefits of a project can be considerable.

Traditionally, when these projects were undertaken, it was by local community stewardship groups such as "Friends of" organizations and occurred primarily within parks or other public open space in partnership with the landowner (usually the municipality or other public agency). However, as the urban community naturalization movement has evolved over the last decade, the scope, complexity and diversity of these projects, including the landscapes upon which they are occurring and the groups driving them has grown dramatically. For example, community groups are partnering with:

• teachers, parents and students to transform asphalt school grounds into dynamic, outdoor classrooms (the focus of Evergreen's Learning Grounds Program) (fig. 2);
• municipalities and business improvement associations to naturalize boulevards, street planters and other streetscapes

Fig. 1: Community planting in Toronto. (*Source:* Evergreen).

(figs. 3 and 4);
• corporations to green utility corridors and rights-of-way that expand the local networks of greenways and connect fragmented urban ecosystems; and,
• hospitals, universities and social service agencies to increase biodiversity on barren institution grounds.

The benefits of urban nature when reviewing the leading literature

Transforming degraded urban green spaces through community naturalization is an important way to restore some of the natural features that have been lost through urbanization. These projects can enhance plant and wildlife biodiversity, improve habitat and connect fragmented green spaces through the creation of linkages. They can also increase the ability of the landscape to absorb water and recharge water tables. However, beyond the environmental benefits, there is a growing body of research that demonstrates the important contributions that the process of community naturalization and the actual presence of natural green spaces themselves, make towards the health, quality of life and liveability of cities and towns:

● **Social benefits:** The presence of nature in the urban landscape has been shown to contribute to creating a sense of community and is one of the strongest factors at predicting levels of satisfaction and pride among residents towards their neighborhood (KUO and SULLIVAN, 1998; LEWIS, 1992; FRIED, 1982). The act of participating in an urban greening project can also yield important benefits. For example, it has been shown

36

Fig. 2: School ground naturalization in Edmonton, Alberta. (*Source:* Evergreen).

to increase a community's sense of social identity and enhance the self-esteem of participants by providing them with the opportunity to improve the condition of the local environment (DWYER, 1995; HOUGH, 1990). There also appears to be a link between urban greenery and levels of crime. Comparative studies of inner-city apartment buildings with varying amounts of vegetation found that the greener the surroundings, the fewer crimes occurred against people and property (KUO and SULLIVAN, 2001). This relationship is attributed to the fact that green spaces bring people together outdoors which increases surveillance and discourages criminal activity. It may also be due to the fact that urban nature has a calming effect which lessens impulsivity and irritability – states of mind that psychologists recognize as precursors to violence (*ibid.*). Participation in community naturalization projects is an important way to reconnect urban residents to the natural world by providing them with opportunities to experience it, without having to leave the city. It also provides them with a first-hand opportunity to

Figs. 3 and 4: Naturalized streetscapes in North Vancouver, B.C. (*Source: City of North Vancouver*).

37

Fig. 5: Youth and seniors greening local street planters in Toronto. *(Source:* Evergreen).

learn about native plants and the natural and cultural heritage of their communities, by getting their hands in the dirt.

● **Health benefits:** Participation in community naturalization and gardening projects involves a measure of physical exercise with proven health benefits, such as the reduced risk of heart disease (CASPERSEN et al., 1991). The presence of green space in the urban environment can also have a profound positive impact on people's mental health by reducing stress, lowering blood pressure and increasing their capacity to concentrate on tasks (FRUMKIN, 2001; HONEYMAN, 1992; KAPLAN and KAPLAN, 1989; KUO and SULLIVAN, 2001; SCHROEDER and LEWIS, 1991). Studies also show that hospital patients with a view of trees through their windows had faster recovery rates and required fewer painkillers, compared to those without (ULRICH, 1984). From a planning and urban design perspective, the availability and accessibility of healthy urban green space positively influences the amount and type of physical activity that people engage in (FRUMKIN, 2001; EWING et al., 2003). Naturalized urban green spaces can also reduce and filter stormwater runoff, improve air quality, moderate air temperature extremes and reduce the need for chemical pesticides (KLINENBERG, 2002; MacDONALD 1996; DWYER et al., 1992; BOULAND and HUNHAMMAR, 1999; BRADSHAW and HUNT, 1995; HOUGH, 1995). A report released by the Ontario College of Family Physicians (OCFP) on the health effects of urban sprawl and the resulting loss of green space noted that green space is an essential part of human health and that serious public health problems will continue to escalate unless decisive and immediate action is taken to control urban sprawl and preserve sufficient green space (OCFP, 2005) (fig. 5).

● **Economic benefits:** According to studies by the Trust for Public Land, a national non-profit organization in the U.S., access to parks and open space has become a new measure of community wealth – an important way to attract business, visitors and residents by guaranteeing both quality of life and economic wealth (LERNER and POOL, 1999). A study of owners of small businesses found that recreation, parks and open spaces ranked as the highest priority in choosing a new location for their business (CROMPTON and LOVE, 1997). Proximity to green space can also increase property values and thereby enhance the municipal tax base. For example, a Windsor Ontario study showed that homes approximately 10 meters from a green space are worth about US$5,900 (CAD7,000) more than identical homes that are approximately 300 meters away (ZEGARAC and MUIR, 1996). In British Columbia, a study of four urban communities found that 10 to 15 percent increase in property values can be attributed to the land's proximity to a riparian greenway system (QUAYLE and HAMILTON, 1999).

Making it happen – Putting ideas into action

The benefits of urban greening can be widespread. However, projects do not occur on their own. In order for the benefits to be realized, community naturalization projects require considerable upfront planning, leadership and ongoing support from municipalities and other public agencies. Although there are many examples of successful projects undertaken by diverse, multi-sectoral partnerships, those engaged in this work still

38

face a number of challenges. A survey undertaken by Evergreen of 25 large and small municipalities across Canada found that, although nearly all municipalities offer some type of support to community stewardship groups on an *ad hoc* basis, few offer extensive, fully integrated coordination and support programs (EVERGREEN, 2004). Examples of individual support that municipalities and other public agencies currently provide include: materials (such as plants and mulch), equipment, technical expertise, administrative support and, in some cases, direct grants. More comprehensive approaches are needed to better leverage the efforts of community organizations and to make the most of the time, energy and expertise that they bring to the table. Examples of typical comments made by the professional land managers surveyed (*ibid.*) include:

* "There are a number of stewardship groups active in our watershed but we do not have the resources to coordinate their activities and ensure that they are working in areas that are in most need of restoration."
* "A full-time staff person such as a Community Stewardship Coordinator is needed to recruit volunteers and support local groups but unfortunately our [City] Council does not recognize the importance of this role and will not make the funds available."
* "The value of community volunteers is recognized but often they are perceived as a burden because staff do not have the time to provide them with the support and guidance that they need."

These comments are supported by academic research into citizen engagement and participatory environmental management that shows the current capacity of local organizations and municipal governments to collaborate is limited (LUKASIK, 2003; PARSON, 2000). From the perspective of local governments, this represents a real loss of potential, given that many local groups have the skills and capacity to undertake successful projects. They can also be a tremendous source of knowledge about the community's natural and cultural heritage. Many community organizations are also very resourceful in terms of raising dollars and stretching limited resources. Therefore, a dollar invested by a municipality into a collaborative greening project can potentially be leveraged several times over by its community partners.

An example of a municipality that recognizes the value of supporting community volunteers is the City of Calgary, which launched its *Natural Environment Adopt-A-Park* program in 2000. This initiative encourages volunteers to work collaboratively with the Parks Department to enhance the City's extensive network of natural environment parks. The program involved hiring a Natural Area Park Coordinator to work with local groups. The City also produced a comprehensive training manual for staff on working effectively with volunteers, plus a code of volunteer rights and responsibilities, safety guidelines and screening criteria. According to the City, when the program started, there were 110 volunteers in seven Natural Environment Parks. In 2002 the program expanded by 700 percent and now there are over 1,900 volunteers working in 60 natural environment parks (CITY OF CALGARY PARKS, 2005).

From the community's perspective, research shows there is a need for better collaborative approaches and tools to effectively take on and sustain urban greening projects (EVERGREEN, 2001). Some of the specific areas that groups commonly identified as those where greater support and capacity are needed included:

* fundraising;
* volunteer management;
* technical expertise on landscape design, plant selection and ecological planning; and,

* outreach and communications.

Evergreen is working with municipalities and community organization across the country to help them overcome these challenges. Our program strategy is based on inspiring action and giving people the tools to make change possible. Evergreen places great emphasis on fostering a culture of ecological stewardship, ensuring that citizens have the knowledge to sustain restoration projects. We work both locally, leading hands-on community gardening and restoration projects, and nation-

Fig. 6: Rooftop garden, Toronto, Ontario. (*Source:* Evergreen).

ally, facilitating capacity building workshops and conferences and providing grants for community-driven restoration projects (fig. 6). Information about the programs and services that we offer is available from our web site.[1]

Measuring success

Based on Evergreen's experience supporting diverse urban greening initiatives, six characteristics that are inherent in a successful project are:

● **The project is planned and implemented on the principles of responsive design.** A responsive design process is inspired and guided by nature. It also recognizes the needs and aspirations of the people involved, as well as the broader community. A responsive design is flexible and adapts to the many unexpected changes related to the site's ecological and social context. Responsive ecological design means understanding how the site has been shaped by nature and the features that define it such as:

* the types and diversity of plants present;
* how it is used by birds and wildlife;
* whether it is physically connected to other natural areas or is an isolated fragment; and,
* other physical characteristics such as the composition of the soil, the direction and intensity of the prevailing winds, the amount of sunlight received.

Of equal importance, responsive social design takes into account the different ways that the community engages with the site to ensure that the project is compatible and complements current uses.

● **The community takes ownership of the project and shares responsibility for its ongoing care and stewardship.** A successful project is not the domain of a single group or agency but a collective undertaking with a shared sense of commitment.

● **The naturalized site becomes a sustainable system requiring minimal maintenance.** Because native plants

Fig. 7: Briar Nine Park and Reserve. *(Source:* Elfi Berndl).

have evolved and adapted to local conditions over thousands of years, once they are established, they require minimal intervention compared to turf grass landscapes. However, a successful project is a continuing process with no real end, that continues to engage the community in ongoing educational activities (such as site tours and workshops) and stewardship events involving weeding, mulching and wildlife monitoring.

● **The naturalized site is used for a variety of uses by diverse members of the community.** For the most part, a successful community naturalization project is not one that is fenced off and out of bounds to residents. In order to be successful, the site must be integrated into the community and used by a diversity of people for a range of activities. For example, in Sarnia, Ontario the naturalized edge of a new stormwater management pond includes reintroduced native plant communities, interpretive signage and seating nodes which are used by local schools as an outdoor classroom. Naturalized areas can also be great venues for small-scale festivals and cultural celebrations. Naturally, the use must be appropriate for the site and exceptions made to avoid disturbances, such as restricting access to important habitat areas during the breeding season.

● **The landscape continues to educate and inspire.** A successful project provides urban dwellers with an important link to the natural world. By interacting with the site and observing its evolution and adaptation, people learn first-hand about ecological processes and the cycles of nature upon which all species, including ourselves, depend.

● **Partners continue to contribute time and resources.** As mentioned, a successful project is an ongoing process. As the site develops, and becomes an integral part of the community fabric, each partner remains committed to it and continues to support it in a variety of ways including hands-on, volunteer labor or by providing in-kind or financial support.

Working together – Two examples of Evergreen community partnerships

Let us refer here to the following:
● Briar Nine Park and Nature Reserve, Richmond Hill Ontario (figs. 7 and 8); and,
● Woodland Park, Vancouver B.C. (fig. 9).

Briar Nine Park and Nature Reserve, Richmond Hill Ontario

In 2002, Evergreen and the Town or Richmond Hill initiated a partnership to restore an underutilized, 13 hectare former agricultural site, owned by the Town, into a dynamic community park consisting of native plant habitats, interpretive trails and signage. The Town of Richmond Hill is located north of Toronto and has a population of approximately 160,000. Briar Nine Park and Reserve is located on the Oak Ridges Moraine and is a stunning example of the undulating topography that characterizes this unique landform. The moraine contains the headwaters of 65 river systems and

40

Fig. 8: Planting at Brian Nine. *(Source:* Elfi Berndl).

has a wide diversity of streams, woodlands, wetlands, kettle lakes, kettle bogs and significant flora and fauna. It is one of the last remaining continuous green corridors in southern Ontario (fig. 7).

Located in an area surrounded by new residential development, Briar Nine Park provides residents with important passive recreational opportunities and, as one of the last remaining urban natural green spaces in the area, raises their awareness of the area's natural heritage. Throughout this project, Evergreen worked with staff to plan a series of community planting and stewardship events to restore its rich meadow and woodland habitats that are home to a variety of wildlife species. By working in partnership with this municipality, Evergreen's role is three-fold:

● **Developing a community participation and education strategy:** Key to the project's long-term success was engaging a variety of participants in the project during its early stages. This involved reaching out to a variety of groups that typically participate in this work including schools, Scouting organizations, field naturalists and others. However, to ensure broader community involvement, other organizations, such as faith-based groups, social service agencies, youth groups, seniors clubs and corporate employees were also engaged. To increase participants' awareness of the ecology of the site and surrounding bioregion, planting events are augmented by educational workshops on a variety of topics, including native plant identification, the natural and cultural history of the Oak Ridges Moraine, local birds, insects and wildlife.

● **Leveraging resources:** As a non-profit organization, Evergreen is able to tap into funds not typically available to public agencies, including private charitable foundations, provincial and federal government grants and corporate donations. These funders recognize that municipal/non-profit partnerships lead to projects with far greater social and environmental benefits compared to those undertaken by single entities. Through Evergreen's fundraising efforts, the Town's capital expenditure on the park was matched. When in-kind contributions (donations of goods, services and labor) were taken into account, the Town's financial contribution was leveraged by 2:1. As a result, the Town is able to stretch limited financial resources while the community has enhanced opportunities to participate in the restoration and care of their park (fig. 8).

● **Ongoing stewardship:** One of the key challenges of community naturalization is ensuring that the site is maintained and stewarded over the long term. To achieve this goal, our strategy is to develop ongoing partnerships with a variety of organizations that can participate. For example, one of the key partners is Home Base, a drop-in center for youth-at-risk. Home Base youth who are interested in the project are encouraged to participate, which helps build their self-esteem and gain valuable skills-training. For Home Base, this relationship has increased and diversified the type of programs that it offers its clients, at minimal additional costs. The relationship has been successful and has expanded to Home Base's own property, where staff from both organizations have collaborated to implement community habitat and veg-

etable gardens. Since the Briar Nine partnership was established, the Town of Richmond Hill and Evergreen have expanded the relationship to include other parks across the municipality.

Woodland Park, Vancouver B.C.

Woodland Park, a small neglected urban park in Vancouver's east side, is an example of the positive change that can occur when the community shares a vision of what is possible and is willing to take action. For years, this 1.5 hectare park was a place that residents avoided because of drug use and other illegal activities that occurred within it. This situation was made worse by the fact that this neighborhood has a deficiency of accessible parks, 0.4 hectares per 1,000 people, compared to the rest City's average of 1.12 hectares.

In 1997, local residents came together to discuss ways that the park could be reclaimed by the community and transformed into a more vibrant space. After a series of community meetings facilitated by Evergreen, the vision that emerged included native plant gardens, food gardens, a new playground and an art installation that would reflect the cultural diversity of the neighborhood. Given the large Aboriginal presence in the community, there was a keen interest to incorporate themes related to First Nations rituals and beliefs. The following year, the "Talking Poles Community Art Project" was initiated, which included a totem pole, sculptures designed by the community and a Circle Garden based on the principles of the medicine wheel. According to First Nations tradition, the

medicine wheel symbolizes the interdependence and interconnectedness of all things in the natural world. The purpose of the Talking Poles project was to address diversity and cross-cultural awareness by encouraging collaboration between neighbors, children, artists, businesses, and community partners. Through the project, a local First Nations artist was commissioned to carve the "Eagle Bear" pole. Once it was completed, the community was invited to participate in ceremonial pole-raising ceremony which was based on traditional protocols and customs. Because there has not been a traditional pole raising ceremony in all of the region in recent history, the event attracted First Nations elders from across the province and the northwestern U.S. (fig. 9).

In the weeks following the pole raising ceremony, Evergreen worked with the community to plant the circle garden and other gardens within the park. Almost 500 plants, representing over 20 different species of plants native to the region, were planted by diverse members of the community – young and old; rich and poor; and people from many different cultures and ethnicities. To ensure that the project continues to provide ongoing learning and inspiration, Evergreen provided free workshops on the themes of nature, art and ecology to community members. Examples of topics include native plant creative container gardening, native plants, names and uses, nature photography and garden pebble mosaics.

Although the park continues to face challenges, this collaborative approach has resulted in a space where connections between peoples, cultures and nature have been achieved and are still occurring. The process of working together on the

Fig. 9: Woodland Park planting. *(Source:* Evergreen).

stewardship of the site has strengthened community bounds and established a solid foundation for future community initiatives. As one local resident reflected "I'd recently moved to the area and [the park] was a really good stepping stone for meeting people who live here. It was one way to feel comfortable in a new environment ... a place to share ideas, to chat with people who are interested in keeping some of the traditions of this land alive" (EVERGREEN, 2002) (fig. 10).

Parting key messages

This paper concludes with the following thoughts:

● **Much can be accomplished by working together:** The key underlying theme of this paper is the importance of working together with diverse partners. Effective partnerships are more than the sum of its parts. Working together enables each member to tap into the experiences, resources and networks of the other partners, and it provides the satisfaction of knowing that the project is being planned and undertaken in a true collaborative effort.

● **There are many opportunities to bring nature back to our communities:** As described earlier, opportunities to bring nature back to our cities extend well beyond parks and open spaces. Those leading projects are seizing new opportunities such as rooftops, boulevards, alleyways and more.

● **Design by nature:** Learning to read the ecological and social landscape upon which the planned project will be carried out, and observing and understanding nature, inspires creativity and enables those involved to see the site's full potential. This ensures that the project plan and design recognizes and takes into account the opportunities and limits set by nature.

Because each community naturalization project is a unique undertaking, there is no single formula for ensuring success. However, when the broad principles discussed in this paper are taken into account and adapted to meet the unique needs and circumstances of the community, the likelihood that a project will continue to provide long-term social and ecological benefits, will be maximized.

Note

1. Evergreen is a national, non-profit environmental organization that brings communities and nature together for the benefit of both. It has been active since 1991, and offers hands-on help, resources, training and grants to communities and local governments. For more information, the reader may visit www.evergreen.ca.

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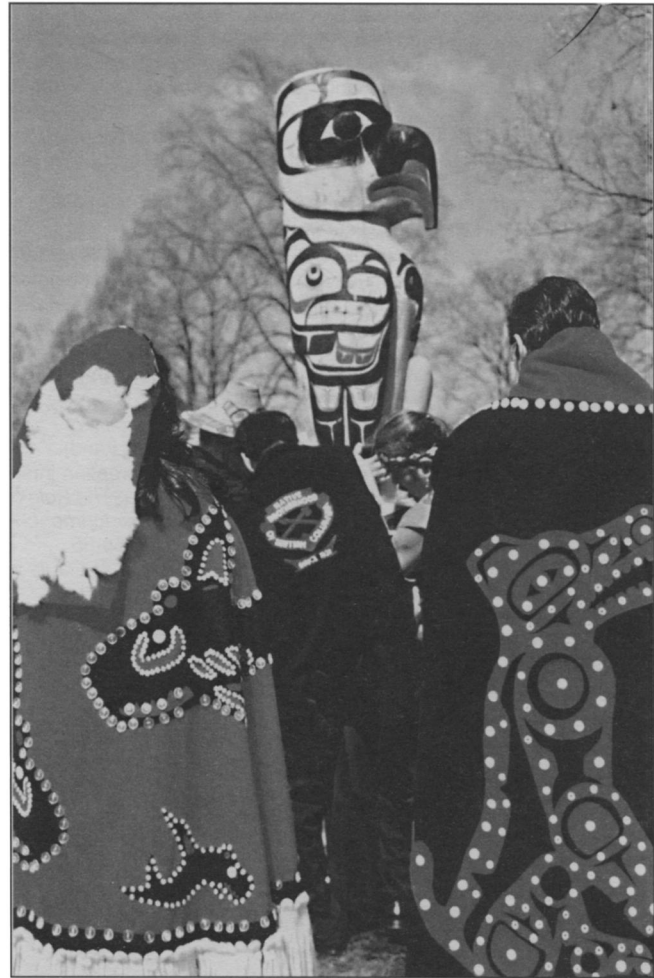
Fig. 10: Pole raising ceremony. *(Source:* Saleem Dar).

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