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The Perfect Storm: Emergency Management Regulations and Small Municipalities in Ontario

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**The Perfect Storm:
Emergency Management Regulations and Small Municipalities in Ontario**

An Analysis of Small Municipalities in Southwestern Ontario and the Challenges to Implementing
Emergency Management Legislation and Proactive Emergency Strategies.

MPA Research Report

Submitted to

The Local Government Program
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Executive Summary

This report seeks to understand emergency management legislation in Ontario. Specifically, this research identifies the barriers that small municipalities experience with implementing provincial emergency management regulations. This report will demonstrate the unique municipal approaches to emergency management and how local governments are managing these challenges while maintaining their statutory responsibility. This field of research continues to demonstrate how provincial downloading in Ontario is causing significant constraints on the financial abilities of smaller municipalities to maintain their ability to exist.

Through a qualitative research approach, this study examined three small municipalities in southwestern Ontario with similar population size and geographic location. Each municipality selected has varying levels of emergency management experience and possesses a different organizational structure for emergency management within their administration. Interviews with key municipal stakeholders with direct involvement in emergency management were conducted and responses are analysed within this report.

The results of this report demonstrate that small municipalities are struggling to maintain emergency readiness due to lack of financial capacity to invest in resources and proactive emergency measures. Local governments are focused on maintaining low property taxes and have competing municipal priorities vying for a small portion of funding in their operational budgets. Although administrators believe that emergency management is important, gaining public support and financial abilities to go beyond the status quo is difficult. Municipalities should shift their perspective of emergency planning from reactive to proactive, as research suggests that more communities are experiencing the impacts of natural disasters.

Concluding this study, this report offers amendments to current provincial regulation to improve the current status quo and to ensure communities are better prepared. Provincial and municipal

administrators should rethink their decisions and priorities in relation to the current environmental conditions governments are facing. If a municipality experiences the devastating impacts of natural disaster, local governments are the first responders and financial support from upper levels of government is not guaranteed. This report suggests that a collaborative approach with financial support between the provincial and municipal governments is needed to address the growing concern of municipal constraints and continue to protect the safety of residents and property when a disaster occurs.

Literature Review

There has been a great debate surrounding the issue of municipal emergency management since the rise in weather-related natural disasters and the impact these incidents have had on governments, citizens, business, and the insurance industry.¹ A natural disaster is an environmental occurrence, such as a flood, tornado, forest fire, or earthquake, which can damage a municipality's infrastructure and property and result in economic decline and loss of human life.² In Ontario, provincial records indicate that natural disaster events are rising exponentially in the past 10 years where provincial support has risen from 20 million to 80 million dollars in relief aid.³ This trend in financial support exposes the lack of municipal emergency preparedness and the growing issue surrounding the financial challenges associated with municipal emergency management.⁴ The limited financial resources that small municipalities control highlights the growing dependency local governments have in maintaining a collaborative relationship with multilevel governments for disaster relief.⁵

Municipalities are faced with many complex challenges after a natural disaster destroys a community. Not only are officials accountable to residents seeking assistance for their basic necessities of food and shelter, but they have to collaborate to implement and fund a recovery plan.⁶ Access to federal and provincial subsidy programs are crucial to a municipality's recovery efforts, but current programs are limited in accessibility and financial aid depends on the severity of damage incurred by the natural disaster event.⁷ In Ontario, municipalities can apply for the Ontario Disaster Assistance Relief Program for additional relief funding, but not all municipalities are guaranteed approval into the program. Under the discretion of the province, the approval process is based on a municipality's financial capacity to

¹ (R. T. Newkirk 2001, 159)

² (Wikipedia 2015)

³ (Collins 2014)

⁴ (Collins 2014)

⁵ (Haggart, Natural Disasters: Insurance Availability and Affordability 2004, 1)

⁶ (E-laws 2009)

⁷ (Housing 2012)

recover and the severity of damage from the disaster.⁸ The lack of clear guidelines and program requirements has frustrated local officials, especially when their municipality is denied approval. This concern has initiated a review of the program by the Ministry of Municipal Affairs and Housing to ensure the program meets the needs of the municipalities.⁹

In order to recover quickly, municipalities must have financial support and cooperation between multilevel governments to effectively implement recovery plans and decrease loss of life. However, unless the disaster is large scale, most municipalities are solely responsible for their recovery process. This knowledge should make emergency management planning a priority for local governments in order to successfully safeguard themselves from natural disasters.¹⁰

Research in the field of Canadian emergency management is still in its infancy, making it challenging for municipal practitioners to fully comprehend the issue and provide the financial investment needed to protect municipalities. Researcher Daniel Henstra has argued that when it comes to emergency management, most municipalities have weak fiscal capacity resulting in a participatory approach rather than a proactive one.¹¹ The majority of the literature argues the need for more comprehensive planning and proactive measures, to include mitigation strategies to protect citizens and property.¹²

Municipal practitioners need to examine disasters beyond the borders of Canada to understand effective emergency management strategies and incorporate these measures into their own community plans. Using global perspectives, the emergency management field has developed a few theories that can assist municipal governments, to include long term planning rather than short term solutions.¹³ However there is not a one size fits all solution, as each community has its own hazards and vulnerabilities that make them unique. This makes the process difficult as best practices make not be effective for every city.

⁸ (Ontario Government 2015)

⁹ (Collins 2014) (Report 2014)

¹⁰ (Izadkhah 2010, 185)

¹¹ (D. Henstra, Municipal Emergency Management 2011, 1)

¹² (G. M. Henstra 2005, 304)

¹³ (Pearce 2003, 214)

This section will review the history and concepts that have emerged in the field of Canadian emergency management and the legislation that regulates municipalities to comply.

History of Emergency Management in Canada

Disaster management policies emerged after the Cold War in the 1950's when the federal and provincial governments made a joint initiative to prepare citizens for the threat of a nuclear attack.¹⁴ Emergency management was initiated by the military which implementing plans for the construction of bomb shelters and emergency training for first responders and officials.¹⁵ At this time the only legislation in place was the War Measures Act, which allowed the federal government to bypass parliament and suspend civil liberties that it felt necessary to facilitate initiatives of the war.¹⁶ This legislation was rarely used except in 1970 during the FLQ crisis in Quebec.¹⁷ After the crisis ended, the War Measures Act was revoked as many officials felt this gave the federal government too much control with absolute powers that skipped the appropriate parliamentary procedures.¹⁸ A few years later the Emergency Management Act was created to provide the legal framework in which the federal government could manage emergencies.

For the next few decades, there were few emergency situations that demanded the attention of the federal and provincial governments.¹⁹ In 1998, Canada faced its first massive natural disaster where a large scale ice storm caused severe damages spread over two provinces.²⁰ Over 80 millimetres of rain hit the area, crippling many cities including Canada's capital region of Ottawa.²¹ Many municipalities declared a state of emergency and looked to the provincial government for financial assistance.²² By the third day, rain and the combination of below freezing temperatures caused power and cable lines damage,

¹⁴ (Pearce 2003, 211)

¹⁵ (Pearce 2003, 211)

¹⁶ (Rosen 2001)

¹⁷ (Rosen 2001)

¹⁸ (Rosen 2001)

¹⁹ (Bokiowsky 2011)

²⁰ (Newkirk, 2001)

²¹ (Bokiowsky 2011)

²² (Bokiowsky 2011)

forcing 100,000 people into emergency shelters and hotels.²³ Through collaborations with organizations, companies, and multilevel governments, officials were able to restore services and get residents back to their homes.

The economic impact of this storm was significant, with over \$1 billion in damages in 1998. The overall GDP in Ontario fell by 0.7% in January as most businesses were not operational during the disaster.²⁴ The Insurance Board of Canada reported over \$790 million in claims for damage to homes, cars and other property.²⁵ As a result of this incident, the provincial government began to investigate emergency management planning within municipalities.²⁶

Government officials realized that natural disasters have significant impact on economic markets and highlights the importance multilevel government collaboration of disaster relief and municipal recovery. Although the ice storm did raise awareness to the lack of emergency planning in the country, officials realized that municipalities need to improve their emergency preparedness to effectively manage extreme weather events. Currently the framework of emergency management begins at federal government and filters down to the municipal level. The federal government is to provide support throughout the country and advise of emergency management initiatives to the provincial level.²⁷ The provincial government has a more central role in municipal emergency management by mandating municipal regulations and disaster recovery. Constitutionally, municipalities are creatures of the province. Ultimately the province holds the authority and responsibility to develop regulations, to which local governments must comply.²⁸

The gravity of municipal disinterest in emergency management has forced the provincial government to implement legislation demanding that municipalities bear responsibility for securing

²³ (Bokiowsky 2011)

²⁴ (Bokiowsky 2011)

²⁵ (Bokiowsky 2011)

²⁶ (R. T. Newkirk 2001)

²⁷ (D. Henstra, *Multilevel Governance and Emergency Management in Canadian Municipalities* 2013, 13)

²⁸ (Magnusson 2005, 5)

proactive measures under the Emergency Management Act.²⁹ The most significant shift in perspective occurred after the terrorist attacks of September 11th, 2001, which spurred the provincial government to amend the legislation to demand that all municipalities create and implement an emergency management plan.³⁰ This amendment clearly demonstrates how the province is shifting responsibility of disaster management to the municipality by enforcing measures to protect citizens from environmental to terrorist threats. This is illustrated through municipal regulations, including a municipal emergency management plan, an emergency coordinator, and regular emergency training for municipal employees. Furthermore, the legislation used today is a result of two significant emergency incidents in Ontario which prompted amendments to the legislation.

The first disaster occurred where dozens of people in Toronto were infected with a respiratory illness called Severe Acute Respiratory Syndrome (SARS).³¹ This incident highlighted how vulnerable citizens are to airborne illnesses and how unprepared the local medical community was to contain the disease. The other incident was a major power blackout in the summer of 2003 which left 50 million people across Ontario and United States without electricity.³² These incidents demonstrated how municipalities are affected by outside measures that can impact the safety of citizens. Since most natural disasters occur at the local level, the provincial and federal governments assume that initial disaster response is left to the municipality to best judge how to proceed when disaster strikes.³³ This is not the first time that a provincial service has been downloaded to the local level without financial support. However, as this downloading trend continues, municipal budgets are limited and do not have the tax revenue to respond to new legislation requirements. Legally, municipalities must adhere to and implement the guidelines outlined in the provincial legislation of the Emergency Management Act and

²⁹ (E-Laws 2009)

³⁰ (R. T. Newkirk 2001, 160)

³¹ (D. Henstra, *The Dynamic of Policy Change: A longitudinal Analysis of Emergency Management in Ontario 2011*, 417)

³² (D. Henstra, *The Dynamic of Policy Change: A longitudinal Analysis of Emergency Management in Ontario 2011*, 417)

³³ (D. Henstra, *The Dynamic of Policy Change: A longitudinal Analysis of Emergency Management in Ontario 2011*, 401)

Civil Protection Act. This issue of municipal financial constraints and emergency management is challenging and experienced by many small municipalities. This trend indicates that if emergency management is to be top priority for local government, then the province should provide increased funding for a more proactive municipal approach.

Emergency Management Legislation in Ontario

The Ontario Emergency Management Act and Civil Protection Act was revised in 2006, shaping the legal framework from which municipalities develop their emergency management plans. The act is developed on the four pillars of emergency management which are: mitigation and prevention, preparedness, response, and recovery.³⁴ In this legislation, the provincial government created new regulations that would directly affect municipal organizations and finances. Section 380 of the Act states that a municipality must designate a Community Emergency Management Coordinator (CEMC).³⁵ This individual must coordinate the development and implementation of the municipality's emergency management plan. This position must ensure that this legislation is incorporated and all measures of the municipal emergency plan are administered and reviewed.³⁶ The plan authorizes the CEMC to assign responsibilities to municipal employees for emergency response, create an emergency control group for disaster events, and ensure all communication technology needed in disaster management is maintained.³⁷ The legislation has extensive emergency measures and comes with no financial support of the province. As municipalities continue to struggle with their financial obligations to provide essential services and functions, this legislation can strain relations between the CEMC, CAO, and city council.

The Role of the Community Emergency Management Coordinator

³⁴ (Government of Canada 2014)

³⁵ (E-Laws 2009)

³⁶ (E-Laws 2009)

³⁷ (E-laws 2009)

Today's theory of emergency management involves leading the development and implementation of community prevention, mitigation preparedness, and disaster response, and recovery strategies.³⁸ To facilitate the plan and establish municipal practices, these duties are associated with the CEMC. This role is dependent on the corporation of municipal administration which can vary in municipalities depending on size. In smaller cities, local governments appoint this responsibility to a public administrator with other duties, such as the fire or police chief.³⁹ In larger communities, this is a full time position, possibly with a team of employees dedicated to the responsibilities of this role.⁴⁰ The CEMC provides continual training and public education on emergency preparedness for officials and the community.⁴¹ Annually, they are responsible for creating a simulation exercise to maintain training and smooth application of their emergency plan.⁴² Elected officials have little involvement with emergency planning as most is conducted in city hall. However, elected officials may become more actively engaged in emergency planning if the community has experienced a natural disaster event. Regardless, individuals fulfilling this role should have strong communication and problem solving skills, and be able to engage local politicians.⁴³

As disasters continue to threaten community safety, CEMC's are becoming increasingly important to the level of community security and preparedness for an emergency.⁴⁴ Researchers Ronald Perry and Lawrence Mankin have been studying the effects that disasters have on local governments and their ability to function in the aftermath of an incident.⁴⁵ Citizens expect local governments to prevent dangers through good law enforcement, prepare for disasters events through planning, respond to incidents as they happen, and effectively recover.⁴⁶ Perry and Martin's research suggests that there is

³⁸ (Ontario Ministry of Community Safety and Correctional Services 2012)

³⁹ (D. Henstra, Municipal Emergency Management 2011, 2)

⁴⁰ (D. Henstra, Municipal Emergency Management 2011, 2)

⁴¹ (E-Laws 2009)

⁴² (D. Henstra, Municipal Emergency Management 2011, 3)

⁴³ (D. Henstra, Municipal Emergency Management 2011, 3)

⁴⁴ (Etkin 2012, 600)

⁴⁵ (Etkin 2012, 176)

⁴⁶ (Mankin 2005, 176)

considerable benefit to having local officials and employees protected during a natural disaster, so they can get back to work as quickly as possible after an event to maintain social services.⁴⁷ After a disaster, citizens demand that municipal services such as wastewater and garbage removal are operational and continue without disruption.⁴⁸ Perry and Mankin argue that in order for local governments to meet resident expectations, considerable pre-planning is needed to effectively address all possible threats and offer solutions where possible.⁴⁹ As more municipalities endure disasters, the importance of CEMC's is evident as these individuals can provide expertise in prevention strategy and risk assessment that are specifically geared to the needs of the community in which they reside.

This CEMC has become highly professionalized in the last few years. Many universities and colleges are offering courses in emergency management and training in risk communications. The Ontario government offers training courses to CEMC's on an annual basis to update and maintain their skills for emergency preparedness, and allow them to gain valuable insight into other city experiences in dealing with natural disasters.⁵⁰ As this position becomes professionalized, municipalities will continue to benefit from their knowledge as more focus on risk avoidance and improved resilience of communities.⁵¹

David Etkin and Niru Nirupama examined emergency management professionals in Ontario to gain a greater understanding of the provincial and local perspective regarding CEMCs. They surveyed 57 CEMCs in the province. Their findings were substantive as most professionals surveyed suggested that the province is slow to react in emergency situations and concluded that emergency management responsibility should be uploaded to the province.⁵² The majority of municipalities do not hire a full time

⁴⁷ (Mankin 2005, 176)

⁴⁸ (Mankin 2005, 176)

⁴⁹ (Mankin 2005, 177)

⁵⁰ (Emergency Management Ontario 2015)

⁵¹ (Etkin 2012, 602)

⁵² (Etkin 2012, 601)

CEMC due to limited financial resources. Alternatively the tasks associated to municipal emergency management are directed to a municipal employee as extra responsibilities.⁵³

Relief Aid Programs to Municipalities

Disaster Financial Assistance Arrangements (DFAA) for additional funding as long as the extent of damage in a municipality exceeds twelve million dollars and one dollar per capita.⁵⁴ Municipalities do not have direct access to federal funding; they must involve the province and it is the discretion of the province to seek federal assistance. Federal assistance was provided in the Manitoba flooding in 2013 and the flooding in Alberta in 2014.⁵⁵

When a municipality experiences a natural disaster, most local councils will seek provincial financial support to assist in their recovery. Each province and territory in Canada has their individual relief aid programs accessible to municipalities, however Ontario's program is unique as the province requires community cost sharing. In Ontario, municipalities which have experienced a natural disaster can apply for provincial funding under the Ontario Disaster Relief Assistance Program (ODRAP). The program is designed to assess the amount of public and private damage against the city's financial capacity to pay for those recovery costs. The public component of ODRAP allows for municipalities to receive funding for infrastructure construction and clean-up cost associated with a natural disaster.⁵⁶ The private component provides funding to residents and business owners where the province tops up funds raised by the community at a ratio of 2:1.⁵⁷ This private component or shared cost is an important element to the program, as the amount of funding received will be determined by how much a community can raise. The intent of the program is to help communities restore their property back to pre-disaster condition and not enhance infrastructure.⁵⁸ It is not a program that replaces private insurance coverage;

⁵³ (Etkin 2012, 602)

⁵⁴ (P. S. Canada 2014)

⁵⁵ (P. S. Canada 2014)

⁵⁶ (Housing 2012)

⁵⁷ (Housing 2012)

⁵⁸ (Housing 2012)

instead claims are approved based on what private insurance will cover from damage associated with the natural disaster.⁵⁹

The shared cost component of this program has come under public scrutiny in the last few years. Many cities claim that fundraising distracts the community in their recovery efforts. Furthermore, many municipalities are shocked when they are denied approval into the program, as there is an assumption that their situation will automatically be approved regardless of the extent of the damage. This notion poses a challenge for cities, as these events are unique and unpredictable, leaving city councils hard pressed to allocate financial resources to an initiative that might not happen.⁶⁰ Although municipalities are legislated to have a minimal standard of emergency preparedness, there are no guidelines regarding the amount of reserve funding a municipality must have in the case of a natural disaster. This scenario leaves some local governments vulnerable as they are too constrained financially to maintain emergency reserves. As a result of this municipal outcry, the Ministry of Municipal Affairs and Housing (which operates ODRAP) is reviewing the program guidelines to ensure it is meeting the needs of municipalities recovering from an extreme weather event.⁶¹

Using documents received through the Ministry of Municipal Affairs and Housing, ODRAP records indicate that the province has provided 50 million dollars to 61 municipalities in the past three years.⁶² This is a significant increase in program expenditures indicating that municipalities are unable to financially respond to natural disasters without provincial support. There are no records on the number of municipalities that are denied approval or the amount of funding denied by the program. It is evident by this research there is a difference in perception between municipalities and the province over the financial responsibility of the damage caused by natural disasters.

Municipal Emergency Management Plans Need to Adapt

⁵⁹ (Housing 2012)

⁶⁰ (R. T. Newkirk 2001, 159)

⁶¹ (Wynne 2014)

⁶² (Collins 2014)

Daniel Henstra has argued that natural disasters events, such as floods, ice storms, and tornadoes, are rising in Canada and the current state of municipal emergency plans inadequately address the recovery needs of the community.⁶³ His research is relevant to this report as it provides a broad view of emergency management practices in Canada. Henstra highlights three provinces and illustrates how the devastation caused by natural disasters affects municipalities' financial capacity to recover. Many local governments need disaster relief from the provincial and federal government to effectively recover. This research gives a framework of how emergency management is organized within the country, and the unique approaches that many provinces have developed based on their financial capacity and risk assessments within their jurisdiction. In particular, Ontario is the only province where there is a shared cost approach to disaster relief. This is a contentious issue with many Ontario municipalities, arguing this program requirement is unfair when compared to other Canadian provinces which do not require a cost sharing component for provincial support. However Ontario administrators and elected officials may not realize that disaster relief in other provinces have higher damage estimates - one dollar per capita and 12 million in uninsured damages - which align to federal disaster relief programs.

Henstra's journal article, "The Dynamics of Policy Change," is an historical approach to emergency management policy.⁶⁴ The article explores pivotal natural disaster events in Canada over the past 60 years which have impacted federal and provincial policy. This article provides a good review of how emergency management policy has evolved. It looks at the legal framework and how the provincial government has influenced municipal responsibility. It illustrates how emergency management policy has evolved in Canada, such as the development of provincial legislation mandating municipal action and how the landscape of emergency management will need to continue to evolve to minimize the damage and recovery process in affected communities.

⁶³ (D. Henstra, *Multilevel Governance and Emergency Management in Canadian Municipalities* 2013, 33)

⁶⁴ (D. Henstra, *The Dynamic of Policy Change: A longitudinal Analysis of Emergency Management in Ontario* 2011)

The research in the field of emergency management clearly documents the destruction that a natural disaster event can have on a community. The impact can cripple a community and threaten the basic necessities of life for residents. Researcher Laurie Pearce argues that emergency plans should improve to address preventative measures such as risk assessments and mitigation.⁶⁵ If local governments invested in more proactive emergency strategies then the municipality would be better prepared and reduce overall recovery expenses. This research is valuable as the article discusses mitigation and how communities must actively engage in public consultation during the decision making process.

However, for emergency management policy to move forward, researchers argue that perception and political will should change at the municipal level to include risk assessment and mitigation in their emergency plans.⁶⁶ There needs to be a clear perception of inherent risk within the community for elected officials and the public to actively promote change in emergency management policies. Natural disaster incidents are on the rise due to global warming and municipalities are challenged with aging infrastructure and lack of financial resources. This creates a perfect storm for municipalities, left vulnerable to extensive damage and risk to citizens' safety. Officials in all levels of governments will need new approaches to the challenges that communities experience. This article is significant to this research as it clarifies some of the variables to observe in this research study, such as the recovery period for a community and municipal budgets.

Researcher Ross Newkirk's argument is similar to Pearce, calling for the need for greater municipal action and improved prevention measures as a viable solution to the rise of natural disasters.⁶⁷ Although he does indicate that practitioners have sufficient tools available to address the challenges faced by municipalities, there is a significant financial cost to improve measures.⁶⁸ If municipalities continue to ignore the potential threats of natural disasters to residents' property then insurance companies will enact

⁶⁵ (Pearce 2003)

⁶⁶ (Brenda Murphy 2005, 64)

⁶⁷ (R. T. Newkirk 2001, 163)

⁶⁸ (R. T. Newkirk, *The Increase Cost of Disasters in Developed Countries: A Challenge to Local Planning and Government* 2001, 162)

preventive measures by initiating their own corporate policies, such as not insuring homeowners in flood prone areas, which is becoming a growing concern. This article is important to this research as it provides a perspective that there is a growing gap between the theory of research and the reality shown in municipal emergency plans and disaster recovery faced by cities. Municipalities will need to be proactive, help themselves, and be more resilient if located in a disaster prone area.

Some researchers have argued that one method of prevention is through reinforcement of municipal building codes. Researcher Howard Kunreuther examines high density hazard-prone areas, and why homeowners are disinterested in purchasing insurance.⁶⁹ He proposes enforcing higher municipal building code standards for residential and commercial buildings in areas prone to disasters to prevent significant damages. By implementing this solution, an affected community could recover faster than cities that did not have these new building codes. This article poses an interesting variable to consider in this research, as building codes could be measured against communities impacted by disaster and their recovery time.

Daniel Henstra and Gordon McBean have suggested that the role of government should be to intervene in municipal relief aid only where the corporate markets fail; where companies are unable or unwilling to provide a good or service.⁷⁰ This argument is at the centre of the issue of who is ultimately responsible for protecting citizens - the provincial or municipal government? The researchers raise the question of legal responsibility of governments to maintain the standards of life necessities and provide measures that ensure the safety of their citizens.⁷¹ Assessing emergency management and the role of government through the lens of economic, legal, and moral perspectives, it provides a framework of provincial obligations and authority when weather-related events occur.

⁶⁹ (Kunreuther 1996, 171)

⁷⁰ (G. M. Henstra 2004, 3)

⁷¹ (G. M. Henstra 2004, 3)

Insurance Companies are making it difficult for homeowners to get coverage.

Insurance companies are essential contributors to the recovery process for a community. Through claims, they are able to assist communities rebuilding and residents repairing their property. As disaster incidents continue to rise, insurance companies are receiving more claims for damages. Researcher Paul Kovacs debates that these increased expenditures will result in the amendment of client policies with higher premiums or the denial of insurance coverage for a particular area with reoccurring weather-related issues.⁷² This article is significant to this research as it examines the role of the insurance industry and the challenges they are experiencing with the rise of damages claims. There is some advocacy for investment into sustainable municipal infrastructure.

The physical impacts of climate change and the trends of warmer temperatures will have an impact on our communities and residents. The federal government has forecast that the national costs could escalate between \$21 billion to \$43 billion per year by 2050.⁷³ There is a risk that the costs will be more significant than research indicate, causing insurance companies to urge clients to develop proactive measures to decrease risks.

Business trends are shifting, with insurance companies leading the way, as a result of natural disasters claim expenses increasing substantially which could undermine the viability of the industry.⁷⁴ This trend was forecast a decade ago in the federal report “Natural Disasters: Insurance Availability and Affordability.”⁷⁵ The article discusses the operational trends of insurance premium rising or the unwillingness by insurers to provide coverage to specific regions or against certain risks.⁷⁶ This report indicates that the business sector, when dealing with risk assessments, is being more proactive with their corporate practices since provincial policy remains unchanged while incidents continue to rise.

⁷² (Brenda Murphy 2005, 4)

⁷³ (The National Round Table on the Environment and the Economy 2013)

⁷⁴ (Haggart, Natural Disasters: Insurance Availability and Affordability 2004, 1)

⁷⁵ (The National Round Table on the Environment and the Economy 2013)

⁷⁶ (Haggart, Natural Disasters: Insurance Availability and Affordability 2004, 1)

Municipal Assumptions and Awareness

One of the largest factors in emergency management and implementation is awareness. Natural disasters are unique and unpredictable events which are challenging circumstances for local councils to fully comprehend. Research suggests that officials will only take affirmative action if there is a perception of risk.⁷⁷ A proactive approach to emergency management usually occurs after a natural disaster event has occurred and amendments to their emergency plans are implemented. This window of opportunity is narrow as public interest will fade as the perception of risk decreases and new council priorities emerge.⁷⁸

Daniel Henstra echoes this assumption, as municipal governments have many competing priorities with scarce financial resources to address emergency management policies.⁷⁹ For an emergency management issue to reach the council agenda, it must be perceived by many authorities as urgent and solvable.⁸⁰ Although emergency management planning is a responsibility of local governments, municipal officials who are appointed with this responsibility face considerable barriers, from lack of political support, public disinterest, and competing priorities, when developing effective policy.⁸¹

There is a belief from administrators and politicians that natural disasters are very rare events that happen in some remote place.⁸² This attitude can lead to municipalities not being fully prepared to deal with the severe damage of a natural disaster event.⁸³ As a result, political support for emergency management remains low and attracts little public interest to change the current status quo.⁸⁴ Daniel

⁷⁷ (Sommers 2009, 182)

⁷⁸ (Sommers 2009, 183)

⁷⁹ (D. Henstra, *Explaining Local Policy Choices: A Multiple Streams Analysis of Municipal Emergency Management* 2010, 242)

⁸⁰ (D. Henstra, *Explaining Local Policy Choices: A Multiple Streams Analysis of Municipal Emergency Management* 2010, 242)

⁸¹ (D. Henstra, *Explaining Local Policy Choices: A Multiple Streams Analysis of Municipal Emergency Management* 2010, 255)

⁸² (R. T. Newkirk 2001, 159)

⁸³ (R. T. Newkirk 2001, 159)

⁸⁴ (D. Henstra, *The Dynamic of Policy Change: A longitudinal Analysis of Emergency Management in Ontario* 2011, 401)

Henstra argues that policy change is motivated by events. As natural disasters increase, municipalities will need to seriously address emergency management planning within their jurisdiction.⁸⁵ Currently, local governments are beginning to understand their role in emergency management through their financial and social responsibility when preparing the community from unforeseen and urgent situations that pose a serious risk to the economic viability, health, and safety of the community.⁸⁶

Protecting citizens is a fundamental role of government, and planning for emergencies is a vital component to ensure public safety.⁸⁷ In Canada, emergency management policy is slowly evolving as more municipalities experience the devastating impacts of disasters and seek government support to fund their recovery. Since the New York terrorist attacks in 2001, the federal and provincial government renewed its commitment to ensure policies reflected the public's desires of emergency preparedness. In Ontario, these regulations are under the Emergency Management and Civil Protection Act.⁸⁸ This legislation is a comprehensive approach to emergency management incorporating concepts such as prevention, preparedness, mitigation, response and recovery. The main highlights of this Act legislate that municipalities must create an emergency operations group, have a designated community emergency management coordinator, and develop an emergency management plan.

Since these regulations were implemented a decade ago, the environmental landscape is changing with a rise in severe weather incidents and the growing dependency for provincial support for recovery. Local officials argue that constraints on resources, funding, training, and time is becoming a growing issue and municipalities are unprepared to deal with the impacts of a natural disaster. It is evident that most municipalities can only meet the minimum legislated requirements to maintain the status quo, which is inadequate and leads officials to be falsely confident in their ability to deal with a disaster. For some

⁸⁵ (D. Henstra, *Explaining Local Policy Choices: A Multiple Streams Analysis of Municipal Emergency Management 2010*)

⁸⁶ (D. Henstra, *The Dynamic of Policy Change: A longitudinal Analysis of Emergency Management in Ontario 2011*, 422)

⁸⁷ (D. Henstra, *Multilevel Governance and Emergency Management in Canadian Municipalities 2013*, 209)

⁸⁸ (E-laws 2009)

officials, the amount of municipal emergency planning a city must develop remains unclear, which can confuse officials and result in minimal effort in the development of their plans.

Municipalities must begin to take an anticipatory approach to emergency management and develop mitigation strategies to protect their residents and infrastructure. If a municipality has experienced a natural disaster, there is more public support and funding available to ensure that emergency measures are in place. However, the majority of municipalities have not experienced an emergency and this situation leads to a more reactive approach when it comes to emergency management. The general attitude of, “that will never happen to us,” has led to an unwillingness of elected officials to support and participate in mitigation measures. This attitude must be abandoned as climate change adversely affects weather patterns across the country, resulting in the rise of severe weather events. Government officials will be held accountable to protect residents and their property when a disaster occurs.

Research in Canadian emergency management suggests that there has been significant movement towards securing the safety of citizens through regulations and programs. This was largely implemented 10 years ago when world political events and severe weather events increased public awareness to initiate more emergency management measures. Today there is a new category of natural disasters emerging where disaster events are smaller in scale but have a significant impact on a municipality’s infrastructure and residents’ welfare. These incidents, such as floods and snowstorms, are not rare or unpredictable. However their influence on municipal operating budgets and resources is significant as these events do not necessarily qualify for provincial relief aid funding. This situation has officials demanding more support from upper levels of government as they struggle to financially recover.

There has been little movement in local governments gaining more financial support from the provincial government. The Ontario Disaster Assistance Relief Program is currently reviewing their guidelines to ensure that the needs of municipalities are being met. However, the severe weather events that municipalities are experiencing are excluded from this program which only deals with large scale damage from natural disasters. This is leaving municipalities vulnerable and jeopardizing the safety of

their residents, as they are unable to financial support all recovery efforts. Since the provincial government has failed to address this growing crisis, other sectors in society are taking proactive measures. Insurance companies are beginning to see the impacts of these events and paying out large amounts in private claims. When it comes to flooding, they have proceeded to deny coverage to home owners in flood-prone areas. This action has increased pressure on municipalities to financially provide for residents when these incidents occur.

As natural disaster events continue to plague communities, municipal and provincial governments will need to reexamine emergency management policy. There must be more effort towards a proactive approach to emergency management to protect citizens and the welfare of society. Due to the challenges that many municipalities experience, this movement will only occur when the provincial government decides to amend regulations to include mitigation measures. To ensure policy success, the provincial government must address local governments' financial concerns and implement programs and incentives for municipalities to invest in safety and arm themselves against future threats.

Research Design and Methodology

The purpose of this research report is to gather information on the municipal attitudes towards emergency management and to understand if the current provincial legislation meets the needs of Ontario municipalities. Using a qualitative research approach, this report is intended to understand the issues and challenges experienced by small municipalities when implementing and maintaining the Emergency Management and Civil Protection Act regulations. Through selected interviews with key municipal practitioners, it is anticipated that there will be some similarities in policy implementation, unique emergency management strategies, and barriers experienced by small municipalities. Local governments in small communities would be less likely to have professional emergency management staff and limited financial resources to effectively implement emergency management legislation. Three municipalities were chosen based within the same geographic location of southwestern Ontario with a population size of under 20,000 residents. This criteria allows for each municipality to have the same climate and

probability of similar severe weather conditions. In this report, there is only one municipality that has experienced a significant natural disaster, but the other selected municipalities provide a solid comparison for emergency management attitudes and comprehension of regulations in a local government environment.

This study gathered information through an interview process of top level officials with direct involvement of municipal emergency management policy. A variety of open ended questions were asked to determine their comprehension of legislation compliance, provincial support, and emergency management challenges within their municipality. Each interviewee did have an opportunity to further expand their answers. If the person did not feel comfortable with the questions, notice was given that they could stop the interview at any time.

Research Subjects

The scope of this study was limited to two official positions within a municipality, the Chief Administrative Officer (CAO) and the Community Emergency Management Coordinator (CEMC). These positions were selected due to their municipal expertise and the authority over regulations within their municipality. In total five people were interviewed, as in one municipality the CAO also performed the CEMC duties. Each municipality has a different approach to the structure of emergency management within their municipal organization. This provides a unique perspective into how small municipalities are managing with the provincial regulations among other municipal challenges.

Three municipalities were selected: the Municipality of Bluewater, the Town of Goderich, and Middlesex Centre. Each municipality is similar in size and they are in close proximity to each other with a similar geographic landscape.

The Municipality of Bluewater was amalgamated in 2001 with municipal borders along Lake Huron. The municipality encompasses five communities which include Bayfield, Hay, Hensall, Stanley, and Zurich, together having a population of 7,000. This is largely an agricultural community with efforts

to diversify their local business community through economic development initiatives. This municipality was selected due to its close proximity to Goderich, which experienced a significant natural disaster in 2011. The intention was to examine if lessons learned from their neighbouring municipality has changed their emergency management attitudes and planning.

The town of Goderich is located along Lake Huron with a population of 7,500. It has a diverse economy comprised of small businesses and the Canadian Salt Company, a salt mine. In 2011, the town experienced a tornado which cause 120 million dollars in damages to public and private property. The town has undergone extensive recovery plans to rebuild the community to its former state. This municipality was selected due to their municipal experience in disaster recovery and rebuilding a large portion of their municipality. The report will examine how their attitudes towards emergency management and planning have changed, as well as their efforts in emergency preparedness. The CAO and the CEMC are very proactive in emergency management initiatives within the local and provincial governments.

Middlesex Centre is located northwest of London Ontario. It is considered a bedroom municipality where most residents work in London but reside in a rural community. The municipality has a very robust farming community, having desirable precipitation conditions due to the close proximity to Lake Erie and Lake Huron.⁸⁹ Middlesex Centre has a population of 16,500 which is the largest population in this study. This municipality has an active transportation sector with a rail system and the 402 highway corridor operating through their district on which 600 transport trucks commute daily with highly corrosive materials. This municipality was selected due to their unique approach to emergency management and involvement from the county. This municipality did experience a tornado in 1990. Since then the municipality has experienced active weather conditions year-round, but not to the capacity of a natural disaster event.

Research Results

⁸⁹ (Wikipedia 2015)

Municipality of Bluewater

The Municipality of Bluewater is comprised of a small but efficient administrative team of 18 employees. Gary Long has been the Chief Administrative Officer since September 2014 and designated as the municipality's Community Emergency Management Coordinator. Long admits the appointment to CEMC along with his CAO duties is not ideal, but inevitable due to the financial pressures within the municipality. In the past, the municipality employed a full-time fire chief who was responsible for both emergency management and compliance with provincial regulations of the CEMC. However, the municipal council decided recently to terminate the fire chief position and seek partnership opportunities with neighbouring municipalities to share the responsibilities and financial expense of a fire chief. Currently the community has a volunteer fire crew, a common scenario in small municipalities, in which fire training exercises are performed regularly. Other skills training in emergency management being practiced were not indicated during the interview. It is evident that there is a lack of expertise and knowledge in emergency management within the municipality since the fire chief was terminated.

The Municipality of Bluewater has not experienced a natural disaster event where the council had to evoke their emergency management plan. The municipal administration has limited emergency management experience, with some minor incidents of severe thunderstorms where damage to trees has occurred. Although the administration does acknowledge the importance of emergency management and emergency readiness, this community faces many barriers to taking a more proactive approach to protect the safety of residents and minimize property damage. These challenges can be categorized into three main concerns: financial, municipal training, and community/council perspective.

Challenges: Finances

This municipality has limited financial resources available, as operational budgets and the required social services downloaded by the province creates financial constraints for council to regularly set aside money for emergency management. Council has consistently tried to put a few thousand dollars

into a reserve so that in a few years they are able to purchase additional equipment such as a generator or televisions for their emergency facilities. The CAO indicates that this reserve is not a substantial amount where council could further improve their emergency readiness. They do not have the financial capacity to be more proactive in their emergency preparedness beyond the legislation standards. As a result, council and administrative staff have maintained the status quo and has no further mitigation measures planned to improve security of municipal assets and safety of residents. Currently, their approach is reactive and will draw funds from other reserves within their capital budget to fund their recovery plan when a disaster strikes.

Challenges: Municipal Training

The CAO has acknowledged that he is concerned with the municipal readiness of municipal staff and elected officials. “We [The Municipality of Bluewater] are not where we need to be in terms of readiness and management. We need to do more and make sure that key staff and elected officials are trained, comfortable, and understand what everyone’s role is during an emergency.” Time is a key factor initiating emergency management training. Many municipal employees, including the CAO, have multiple roles and vast responsibilities that are deemed a higher priority within the council mandate. As a result, Long indicated that scheduling emergency management sessions has been difficult due to these conflicting, competing responsibilities. However, the CAO understands that this standard must adapt. Strong leadership and increased public awareness will allow the time and effort needed to guarantee the municipality is prepared for a natural disaster.

In terms of Community Emergency Management Coordinator training, Long has completed basic emergency management training through the Office of the Fire Marshall. Although this beginner course has provided the basic theory of local emergency response, he admits that he is not comfortable with his level of emergency training, but is confident in his abilities and skills to lead his municipality if an emergency situation arises. He is aware of the CEMC responsibilities and statutory regulations the municipality must adhere to, but acknowledges that he has been focused on other municipal priorities.

This sentiment is a common theme in small municipalities where the perception of risk is a strong indicator of whether there are strong emergency management strategies.

Challenges: Council Perception

The Municipality of Bluewater emergency management planning is challenging as constraints such as time, resources and funding have been limited. In the past, the fire chief acted as an active promoter of emergency management and complied with provincial regulations when needed. Council was updated regularly and elected officials were satisfied with this arrangement. Furthermore, council maintained the status quo and did not have a strong collective desire to be more proactive in emergency measures since natural disasters are rare incidents which their community has not experienced. This lassie-faire attitude suggests that the elected officials did not learn from their neighbour's experience with a natural disaster, and municipal emergency plans remained untouched despite this knowledge.

Moving forward, the municipality has a new council along with new priorities. The CAO is confident that by collaborating with municipal departments and council, they will update emergency plans and move proactive measures forward. These measures will not be identified until a new risk assessment is completed.

For a municipality that has not experienced a natural disaster, their former CEMC did revise and maintain an efficient municipal emergency management plan. Looking at the 2011 and 2015 emergency plans, there has been some attempt by the former CEMC to revise emergency standards and provide clarity on municipal responsibility. In the current plan, new amendments to mutual aid agreements and relief aid compensation have been added with specific measures to roles and procedures. These are the only significant improvements made to this plan, as mutual aid agreements are vital to recovery.

The CAO understands how significant mutual aid agreements are in the recovery process after a natural disaster incident. "We simply cannot do this on our own; we do not have the resource capacity." They have formal agreements with neighboring municipalities for equipment, supplies and resources.

Other agencies providing social services, such as the Red Cross, Samaritan Purse, and local church associations, have been secured if an incident should occur and their services are required. The plan has some detail as to each organization's role and their specific involvement in the recovery process. Until this plan is activated, municipal officials will not know if their plan is successful and if changes are needed.

Presently, the CAO is motivated to move forward with emergency management planning as more communities are experiencing the effects of natural disasters in Ontario.

“Municipalities must get their houses in order when it comes to emergency management. What that means is a Mayor, CAO, staff, and council making it more of a priority moving forward and not just saying it but doing it.”

Strategies, such as raising public awareness on emergency management issues, are key to community support of making emergency management a priority in this municipality. With many competing priorities vying for a small amount of funds, this task will be very challenging. The CAO understands that it is not a case of “if” a natural disaster will occur in this municipality, but when. Through his strong administrative leadership, the CAO will strive to ensure that emergency management is part of the community mindset and together they can strengthen their emergency readiness to effectively recover.

Middlesex Centre

The municipality of Middlesex Center is located northwest of the city of London. This close proximity to a large urban centre allows residents to enjoy urban amenities while living in a rural setting. This can also pose challenges, with residents' high expectations of municipal services and programming influenced by their urban neighbours. The municipal administration is small, with 10 employees, and has strong support from the upper tier Middlesex County, which is comprised of eight neighbouring municipalities. Through this tiered governance structure, Middlesex County can assist with additional

resources and supplies to the municipalities under their jurisdiction. This is demonstrated through the collaborative approach in maintaining emergency management regulations. The majority of the responsibility for the legislation is administered at the county level, where the primary CEMC for all eight municipalities resides, while the alternate CEMC resides at the municipal level. Through the interview process with the Middlesex Centre's CAO Michelle Smibert and the alternate CEMC Ken Sheridan, there are definite benefits and challenges to this arrangement which will be discussed in further detail.

Benefits of Shared Resources and Funds

There are many benefits to having the county oversee emergency management in small municipalities. The CAO indicated that this framework is ideal for their municipality as they struggle with limited emergency resources and funds for an effective recovery process. "We don't have the resources dedicated to emergency management, and if we can rely on the county for that, it is good. The primary CEMC makes sure that we are focused on emergency management policies." The role of the primary CEMC in Middlesex County is to provide the community outreach with elected officials, municipal staff and residents, gather background information on emergency management planning, and have a thorough understanding of each municipalities' emergency management plan. During an emergency situation, they are to provide advice to the emergency operation group.

This emergency management arrangement allows for the CEMC to have a thorough understanding of emergency resources available throughout the county. During an emergency, they can quickly mobilize all necessary resources and agencies. By having this responsibility delegated to the upper tier, the position can build across the county partnerships with agencies and businesses, analyse the current status of emergency readiness, and provide proactive strategies to effectively mitigate hazards. The CAO is confident that if an emergency situation were to occur, their municipality would be ready with the county's assistance. In theory this emergency management framework is a viable solution to the impending issues experienced with small municipalities.

Benefits: Dedicated Focus on Emergency management planning

In the case of Middlesex Centre, the elected officials and the administration understand the limitations of their municipal resources, funding, and competing priorities make emergency management policies challenging. In a proactive approach, instead of adding additional duties to a senior municipal employee, this partnership with the county is advantageous. This framework allows for a dedicated employee to focus and address all issues regarding emergency management regulations including preparedness, prevention, and recovery process. Since most municipal officials have time constraints that prevent them from dealing with all the issues regarding emergency management, this approach ensures that someone is responsible for overseeing the plan and advising municipalities on developments and any potential risks. Through constant communications with councils and administrators, the primary CEMC can provide a valuable service to those municipalities that do not have the financial means. It provides peace of mind for officials and administrators and accountability to the public that emergency management is being addressed on a regular basis. However, not all municipal officials are confident in this arrangement and are concerned with the command and authority of the plan once it is evoked.

Challenges: Jurisdiction and Authority

The alternate CEMC in Middlesex County is the fire chief. Overall he supports this arrangement, as the county provides a great service by coordinating the emergency management plan, training, and keeping the plan relevant to the community's needs. However, when the time comes to implement the plan, issues of jurisdiction and authority could arise and impact the efficiency of recovery. A clear understanding of the county's role as the primary CEMC and the role of the municipality is essential as this municipal-county dynamic could vary in levels of involvement depending on which municipality is experiencing the emergency. There are potential concern of who ultimately has the authority to make the final decisions. Is it the municipality? Or the county, since emergency management has been delegated to the upper tier? The theory of this arrangement and the reality of the emergency plan executed could be very different when a disaster presents itself. The CAO is confident that the primary CEMC is not the

authority, but is providing a resource of higher level knowledge and the innate local knowledge of the community comes from the other members of the emergency operations group.

Sheridan indicates that many times the emergency operation group has been activated over a particular emergency event, but the municipality does not declare an emergency. “The municipal emergency management plan is an umbrella for how the plan can be used given the situation.”

Understanding the incident and the resources available is essential when determining the best emergency management approach. A municipality declaring an emergency is only essential if the incident requires outside financial support to recover. Municipalities are equipped to deal with most emergency situations using municipal officials and first responders. Other levels of government may be involved when local council deem it is appropriate.

Challenges: Communication

One of the main challenges that this municipality has identified is emergency management communications during an emergency, particularly getting the message out to residents. Middle Centre does not have access to media outlets, such as a television station, independent radio, or newspaper, to inform the public of an emergency warning or event. In the event of an emergency, the CAO is unsure of how effective their capabilities are to inform residents through the internet or telephone system. The CAO has recognised this issue through training exercises, and is hopeful that provincial emergency innovation through cell phones could be a promising and viable option once it becomes available.

Challenges: Council Priorities

Currently emergency management is not a priority with the municipal council. This could be a result of delegating emergency management to the county where the primary CEMC is responsible for the municipality’s emergency plan maintenance. The council’s attention has been focused on asset management for infrastructure, services, and green development. The CAO is encouraged that the

municipality has investigated mitigation alternatives within their jurisdiction. However, no initiatives are currently in the plan, as finances are a prominent concern for the local council.

Goderich

Goderich provides a unique emergency management perspective because they have experienced a devastating natural disaster and executed their emergency management plan. Goderich was struck by an F3 tornado on August 21, 2011, causing over \$120 million in damages to the town's infrastructure and surrounding area.⁹⁰ In total, fifty-four buildings were demolished, nineteen commercial and thirty-five residential, and an estimate of two hundred and thirty-eight buildings needed repair.⁹¹ Over five hundred trees were uprooted on public property and twenty-five acres of cemetery flattened.⁹² There was significant damage to critical infrastructure with power lines downed or destroyed, leaving most of the town without power for several days.⁹³ There were natural gas leaks reported in several locations due to damaged mains and the natural gas supply was turned off for the entire town as a precaution.⁹⁴

According to the 2011 operating budget, the town's main source of revenue was six million dollars through property taxes, and it had a surplus of fourteen million dollars.⁹⁵ Due to the amount of damage and the town's financial position, officials believed they would need outside financial support to rebuild the community. City council passed a resolution declaring a state of emergency, evoking their emergency management plan and qualifying for relief aid through the Ontario Disaster Relief Assistance Program.

This is not the first time that the town has experienced a natural disaster. In 1990, the municipality experienced a cyclone that passed through the town causing some damage to 1000 trees.⁹⁶

⁹⁰ (Cabe 2012)

⁹¹ (Cabe 2012)

⁹² (Cabe 2012)

⁹³ (Municipal Adaptation and Resiliency Service (MARS) 2012)

⁹⁴ (Municipal Adaptation and Resiliency Service (MARS) 2012)

⁹⁵ (Cabe 2012)

⁹⁶ (Cabe 2012)

At that time, council voted to have a dedicated, part-time emergency management coordinator, who would be responsible for emergency preparedness and implementation of proactive initiatives. Emergency management in this municipality is routinely exercised, and the administration continues to implement proactive measures to protect their residents and municipal assets. Currently, the municipality's emergency management structure is comprised of an emergency management coordinator who shares her worktime duties with health and safety. This position traditionally has been filled by a person that is not a first responder or fire chief.

The interview with CAO Larry McCabe indicates that he is a resilient leader in municipal emergency management practices and a strong supporter in emergency management development in small communities. Janice Hallahan, the CEMC, also has experience with emergencies. She was involved in the inquiry into the Walkerton E.coli outbreak, where the municipal water supply became contaminated. Together their expertise in the recovery process can be summarized in the benefits and challenges to their emergency management planning.

Benefits: Dedicated Emergency Management Coordinator

After the tornado hit Goderich, elected officials and the administration believed that there should be a stronger emphasis on emergency preparedness in the community. Janice Hallahan was hired to become the full time emergency management coordinator and the health and safety representative for the town. Contrary to other small municipalities' challenges of financial commitment and time resources, CAO Larry McCabe believes that emergency management is an essential service and does not require significant amount of municipal funding. "Emergency management is not a big part of the budget and we are not talking about a major investment. Janice is split between two different departments. Emergency management could have weeks where you do nothing, but she is also the health and safety person for the town and Hydro. If there was a disaster, she is one hundred percent the CEMC person and that is the way it works."

Hallahan's responsibilities include initiating all municipal emergency management training, communication, and community outreach in emergency readiness. By incorporating this position into the municipal organization, there is sufficient time and resources available to ensure all emergency management practices and initiatives are conducted. For example, Hallahan was involved in coordinating the tornado policies for child daycare centres and exercises in case of a tornado warning. This policy was a result of public consultation after the tornado, where concerns raised over protecting the community's most vulnerable. Now a tornado warning policy is in place, daycare employees and parents understand their role in case of an emergency, limiting the chaos and confusion that can occur during a natural disaster.

Exercising the plan and ensuring that residents are safe is the main responsibility of Hallahan's emergency management position. She actively researches relevant information on the subject, connecting with all levels of government to ensure that the latest technology is being implemented. Hallahan's efforts has successfully connected with Environment Canada officials and gained knowledge of the Alert Me program, which allows her access to the government's website providing access to latest weather information for the area. Furthermore, her ongoing communications with Emergency Management of Ontario allows her to plan effectively with the administration, especially with cell phone technology. "We do believe that some of the actions taken provincially with EMO and OFM, with the radio and television broadcasting is a positive step forward and we believe that with everyone increasingly carrying cell phone devices, the geo coding is the way to go." Geo-coding is a software that enables telecommunication companies to ping a cell phone with weather alerts in a geographic area to cell phone users. This technology is being examined by Emergency Management Ontario to further prepare residents for severe weather warnings through immediate and current information in a threatened area. The benefit of this application is that it allows for outreach to all people, residents or tourists. Hallahan states that geocoding is yet another avenue to disseminating information to the community. She

acknowledges that not all have cell phone and traditional approaches to informing the community will still be valid. This is just one more approach to ensuring the community is ready.

Hallahan is passionate about emergency management and her superior knowledge is demonstrated through initiatives she embarks within the municipality. This level of expertise is a valuable asset in the community as she is able to effectively assess hazards, implement policies, and keep up to date with the latest innovations with emergency management. This dedication at the local level allows for the town to forecast and plan for upcoming emergency initiatives, allocate funding effectively and be proactive in training. For example, Hallahan was the only CEMC able to discuss the latest geocoding technology for cell phones. This knowledge allows Hallahan to focus on implementing this technology into their emergency planning and can focus on other issues that the community is experiencing. The other municipalities interviewed had no knowledge of this new technology, leaving officials at a disadvantage of being less proactive with their emergency planning.

This emergency management structure is advantageous as it demonstrates accountability to the public and ensures that the CEMC has the ability to gain superior knowledge without the pressure of other competing priorities. A key indicator of successful emergency management planning is the strong administrative and public support of a dedicated position within the municipality. This is evident through their comprehensive emergency plan and regular training of municipal employees.

Benefits: Training and Revising Plans

Since the tornado, CAO Larry McCabe indicated that the municipal emergency management plan has not gone through any significant changes, however additional roles were added. “We did go through some revisions of the plan to include roles such as environmental tech. There was also a need to include agencies that deal with pets.” These additional roles were not evident in the other two municipalities’ emergency management plans. Through the experience of a natural disaster, the CAO and CEMC have

the advantage of what to expect. Although emergencies can vary, they can provide local knowledge and expertise that allows for an effective recovery process.

Comparing Goderich's 2011 emergency management plan to the current plan, there are a few clear provisions made that indicate lessons learned from the tornado. First, there is the addition of a scribe position. This role documents all communications during an emergency and provides transcripts of pertinent discussions. McCabe indicated that including this role into their emergency management plan ensures that there is one official message broadcasted to the public. "During an emergency, there is a lot going on with emergency response and aligning social services to provide community support. It is critical to have the right message going out to the public." Other communications tools to assist in resident needs were realized with the services of 211 Ontario. This is a telephone hotline and website service to connect people with social services, non-clinical health, and government services offered in their municipality.⁹⁷

McCabe and Hallahan indicated that the emergency operations group should be comprised of community leaders that have a significant impact in the emergency declared. The municipality added a liaison from the business community and an environmental technician. This would ensure that there were multiple voices and perspectives incorporated into the recovery process. This notion became evident following the disaster, and the process of rebuilding the community.

The legislation requires that municipalities participate in training and exercises. Hallahan has been actively preparing an emergency situation exercise by collaborating with neighbouring municipalities to participate in a large-scale mock disaster. Through this exercise, participants can gain valuable knowledge of their role in an emergency, and discuss issues or concerns with current emergency plans. Hallahan encourages all municipalities to participate in live emergency scenarios as they provide valuable practical experience for municipal staff and improves efficiency in executing the municipal emergency plan.

⁹⁷ (211 Ontario 2015)

Challenges: Human Factor

There are many benefits to training exercises which can prepare a municipality for an emergency event. They improve collaboration, strengthen teamwork, and coordinate services to help alleviate the emergency. However, McCabe indicated that some municipal employees could not handle certain duties during the actual emergency, and the emergency operations group needed to account for this challenge. “For some they were concerned over personal home situations and which can lead to increased stress and job fatigue.”⁹⁸ Although there were some minor adjustments to employee duties, the CAO did indicate that some employees that were not previously identified were natural leaders that rose to the challenge and were able to fulfill their duties beyond the administration’s expectations. The recovery process is slow, and stressful to municipal staff and residents. McCabe indicated that he maintained close communications with staff to ensure their wellbeing during and post recovery. If a situation arose with a staff or group member, the emergency operations group had to adapt plans to effectively execute the recovery.

The CAO admits that before the natural disaster occurred, the human factor issue would not have materialized. Actually implementing the plan was required to comprehend the level of stress on employees. Now with a broader understanding of this stress, the administration have developed provisions to ensure the welfare of staff during an emergency.

Challenges: Provincial funding only for the bare minimum.

The town of Goderich received \$2.1 million in relief aid from the province through the Ontario Disaster Assistance Relief Program.⁹⁹ This funding was allocated to rebuild the municipality back to a pre-existing level before the tornado occurred. The administration and elected officials are grateful for the support from the provincial government. However, the aftermath of the natural disaster proved to be challenging in the reconstruction of the downtown area. The administration had issues concerning

⁹⁸ (Cabe 2012)

⁹⁹ (Cabe 2012, 15)

heritage building regulations, asbestos removal, accessibility, and upgrading municipal infrastructure to meet current building standards. The CAO indicated that it was a difficult time for the administration as they had to quickly rebuild to provide for the residents of the community while navigating these issues.

The recovery process took four years. After participating in this process, McCabe has suggested a few amendments to provincial funding. Specifically, he recommends that the funding should include environmental elements such as trees, sidewalks, and parks. The municipality applied for several government grant programs but was unable to secure provincial funding for the 500 trees destroyed, sidewalks, parks, and damaged pipes due to their municipal finances. The funding was only to be used toward debris removal and reconstruction of municipal buildings. The town was fortunate to receive private funding through fundraising to purchase the additional trees to the newly rebuilt downtown area and bring a sense of pride back into the community.

Funding also did not take into consideration that the majority of municipal infrastructure was old and did not meet current building codes. The administration was financially responsible to rebuild buildings to meet current standards, removing asbestos and improving accessibility, which resulted in increased costs in materials and labour which was beyond the original reconstruction estimates.

Overall, this municipality is a good example of how the provincial relief aid program operates within the province. McCabe states that they were guaranteed up to 4.5 million dollars of funding for their recovery process and received 2.1 million dollars. The remaining funds were secured through community fundraising and gracious donors such as corporations and other municipalities. Mutual aid agreements with neighbouring municipalities and agencies were vital in the recovery process to assist in the immediate needs of the community. McCabe states that it is important to review and exercise an emergency plan to ensure its effectiveness during a real emergency. “You will never be prepared until it happens, but having the knowledge of your plan and knowing where your people are when it happens will help.”

Policy Recommendations

The three municipalities interviewed in this research study demonstrated a growing concern over the increased threat of natural disasters impacting municipalities and administrations are preparing to deal with these new challenges. The provincial legislation of the Emergency Management and Civil Protections Act mandates that municipalities must ensure that minimum standards are implemented to protect their residents and the limit the damage to property. Furthermore, it is interesting to note that each municipality has interpreted the legislation differently, resulting in three unique approaches to municipal emergency management in Ontario. The question of which approach works best given the current challenges experienced by small municipalities is difficult, but it is evident through this research that a more proactive approach needs to begin at the local level.

Some municipalities are championing emergency management strategies and extremely proactive in their approach as they have experienced the devastating effects of a natural disaster. Officials are encouraged with the research and innovation, such as geocoding and new building standards occurring at the provincial level, which will eventually benefit municipalities. Small municipalities should invest in partnerships with other community sectors to further their efforts on emergency readiness. However, this proactive participation is the exception and not the standard in Ontario.

This report is recommending that the provincial government should review its current legislation to ensure that municipalities are proactive in emergency management legislation. This study gathered information indicating that small communities could manage dedicating more time for a CEMC to facilitate initiatives, as demonstrated through the town of Goderich. Although not all rural municipalities could achieve this level of resources, there is significant success with emergency management involvement at the county level with neighbouring municipalities sharing costs associated with emergency management responsibilities. By having a dedicated CEMC at the local or county level where dedicated part-time hours are invested would be beneficial to all municipalities and residents. It is evident from the current emergency management landscape that small municipalities should initiate more

emergency management strategies to protect themselves against severe weather related events.

Amendments to the existing legislation through allocating more resources for a dedicated position within the municipality or county involvement would force municipalities to improve their emergency preparedness and decrease the significant financial burden of recovery costs of these incidents.

Recommendation: Standardizing Emergency Management Approach in Municipalities

The current emergency management structure in Ontario is a central approach where the provincial government mandates the policies and procedures for local governments. At the municipal level, this responsibility is bestowed onto the community emergency management coordinator. This position could either be a dedicated position within the administration or assigned to a senior official. Through this study, it appeared that a dedicated CEMC position within the administration had a greater comprehension of emergency management legislation and policies held within their municipality. If the CEMC position was a shared duty with a senior administrator or at the county level, individuals held less municipal emergency management knowledge and stressed challenges with multiple priorities and time constraints. Although one municipality did have a dedicated CEMC at the county level, concerns over local expertise and county jurisdiction issues were evident.

This report recommends that providing a standardized approach to emergency management is the most effective method to evaluate if the legislation is effective. Allowing different emergency management structures creates overall confusion at the municipal level, lack of emergency management knowledge, and jeopardizes the effectiveness of the recovery plan. Using a standardized approach, small municipalities can engage in a more proactive emergency management conversation and reap the benefits of lessons learned by other communities and their strategic initiatives. Although every municipality has their own unique challenges, this approach would allow municipal administrators to integrate best practices into their emergency plans.

Recommendation: Increased Training for Administrators and CEMC's

Throughout the interview process, all municipalities argued for access to more training in emergency management. Currently, the CEMC and the alternates are the only individuals allowed to participate in training courses offered by the province. However, some administrators indicated that these courses should be open to all senior officials, to help them better comprehend emergency processes and regulations. This would assist them during municipal emergency management planning. One municipality interviewed had several employees with the CEMC designation which would benefit the community if an emergency occurred. Local expertise, on-going training, and regular municipal emergency planning discussions will ensure a more comprehensive emergency plan and an effective recovery plan. More administrators trained in emergency management will increase municipal emergency preparedness, as more municipal employees will be aware of policies and be active promoters.

Recommendation: Dedicated Community Emergency Management Coordinators

There must be more emphasis on the Community Emergency Management Coordinator at the municipal level where their primary role is emergency management and not competing with other responsibilities. This could be implemented similar to the example of Goderich where their CEMC is the emergency management coordinator and health and safety. The municipality can assign time and resources to this position which would improve current local emergency planning. This position should not be assigned to a senior position like a CAO or Fire Chief as they already have significant roles within their municipalities. During the interviews, municipalities stated that there are many challenges that their administrations are experiencing. Limited financial resources, time constraints, and competing municipal priorities are having a profound impact on operating budgets and resources. The provincial government should address these issues and provide alternative solutions for those municipalities that face these constraints.

Another recommendation to consider is organizing the province into emergency management zones, similar to the organizational structure devised in Nova Scotia. The zones would be comprised of two to three municipalities that share the funding of one CEMC for that emergency management area.

Their responsibility would be the duties of the CEMC, to raise public awareness, to maintain ongoing training, and collaborate resources for emergency planning. Municipalities that are struggling with resources and funding could find this structure advantageous. CAO Gary Long agrees that a regional CEMC is a viable solution for smaller municipalities.

“It is definitely the way to go in small communities. If we have one person that is overseeing emergency management for that area, you can see the partnerships. Huron County is not that big. We are only 60,000 in population. So if you combine a few municipalities like Bluewater and central Huron, we talking not a lot of people. You can have one person to oversee that - seminars, risk assessments. Right now it is really not happening to the extent that it should be.”

If this recommendation were to be implemented, there must be careful consideration for the number of municipalities in each zone and measures in place to ensure that municipalities are fully involved with their own emergency management planning. This concept will alleviate municipal financial pressures and constraints on resources, while maintaining accountability with residents by actively engaging in emergency management strategies.

Not all municipalities would be in favour of this recommendation. Some officials argue that this zoning concept would remove local knowledge and expertise from the municipality. Janice Hallahan argues that small municipalities should have a dedicated full time CEMC that is not an assigned role of a senior administrator or first responder employee.

“It is a key position to have in every municipality. I know that in a large number of municipalities in the province of Ontario, the primary CEMCs are fire chiefs. They are playing dual roles because they are looking at the ground circumstance of what is taking place and they are more concerned with fighting the fires, being the fire chief. The CEMC has a very critical role in being the resource for the emergency operations of the control group. They are there to do the ground work to be done. The decision makers at the table, [the

CEMC] is their resource to give them the assistance they need. There are rules and responsibilities for each role in the committee. There needs to be a dedicated [CEMC] that is not a first responder.”

Instead of reorganizing the current emergency management structure, officials indicated that increased funding opportunities are needed to improve the current status quo. If funding were available, municipalities could increase their emergency management investment and have the ability to employ a dedicated and trained emergency management coordinator. In the current municipal landscape, most local governments are only able to maintain the status quo.

Research Conclusion

Municipal governments in Ontario are increasingly challenged with the downloading of provincial services, creating a significant burden on local operating budgets. Elected officials and administrators are becoming more financially savvy, balancing compliance with provincial legislation with the needs of residents they serve. This is clearly the case when addressing the concerns of municipal emergency management. Municipalities are dealing with competing priorities, financial limitations, lack of municipal resources, and overall public disinterest in emergency management. There is the perception that natural disasters are rare and unpredictable events. Research suggests that severe weather events are on the rise due to climate change, and local governments should begin to take a more proactive approach to emergency management in their municipality and decrease the potential risks.

In Ontario, emergency management is organized through three unique approaches which meets legislation requirements. First, we looked at the municipality of Bluewater and analyzed how assigning additional duties such as the CEMC to the CAO is challenging. This arrangement is undesirable but necessary given the current financial position of the municipality. This allows administrators and elected officials to comply with provincial regulations while being fiscally responsible. The challenge with this emergency management structure is the limited resources and time available to effectively improve emergency management planning beyond the status quo. For this emergency management structure to be

more proactive with mitigation strategies, there must be more direction from the provincial government through legislation, or the municipality must experience the impacts of a natural disaster which will raise public awareness and financial support. Better legislation is certainly the more desirable catalyst.

Next, this study analysed the emergency management structure in Middlesex Centre. In this municipality, emergency management responsibilities are uploaded to the county. The county has the designated primary CEMC for eight municipalities, with an alternate CEMC residing within each municipality. The benefits of this arrangement is twofold: there is dedicated employee allocated to emergency management and training; and financial pressures for emergency management is cost-shared among all eight municipalities. This arrangement is ideal for municipalities that are financially strained, lacking resources or staff. The county has not experienced a natural disaster and jurisdiction during the emergency could be challenging. Until Middlesex Centre evokes their emergency plan, this challenge will not be addressed.

Finally, this study analyzed the municipality of Goderich which has a comprehensive approach to emergency management. This municipality is a proactive leader in emergency management as they have a dedicated CEMC within their community. This municipal position shares its time between emergency management and health and safety within the town. This arrangement gives the CEMC time to effectively investigate proactive emergency management strategies, remain up to date on the latest technology, and maintain training and their municipal emergency plan. Since Goderich has experienced a devastating natural disaster, the public perception of risk is high which allows local officials to allocate funding to emergency management planning. As more municipalities continue to experience natural disaster incidents, provincial officials may look to this emergency management structure as an ideal method to address future emergency management concerns. The CAO has indicated that this dedicated position is cost effective and allows the town to be more prepared for an emergency given their town's history. Research has indicated that more funding invested into proactive emergency measures allows for effective and efficient recovery from natural disasters. Goderich has a small operating budget but has

exceeded beyond the provincial status quo discrediting the theory that more provincial financial support is needed for municipal officials to be more proactive in emergency measures.

In conclusion, municipalities are increasingly vulnerable to the rise of severe weather incidents in Canada. Research has demonstrated that natural disasters are becoming more frequent and severe. Local governments must adapt to this new reality and begin to be more proactive to decrease the risks. This report shows that small municipalities are challenged, and as these severe weather event become more intrusive, officials are overwhelmed with how to proceed proactively without going financially bankrupt. It is time for a new discussion on municipal emergency management at the provincial level with consultation with municipalities to address some of these challenges with viable solutions. Municipalities should be more prepared for emergencies because research indicates that these incidents are not a matter of *if* they will happen, but *when*.

Bibliography

- 211 Ontario. 2015. *211 Ontario*. Accessed July 07, 2015. <http://www.211ontario.ca/basic-page/about>.
- Allen, Katrina. 2006. "Community based disaster preparedness and climate adaptation: local capacity building in the Philippines." *Disasters* 81-101.
- Bokiosky, Laura Neilson. 2011. *Ice Storm 1998*. August 12. Accessed November 22, 2014. <http://www.thecanadianencyclopedia.ca/en/article/ice-storm-1998/>.
- Brenda Murphy, Leanna Falkiner, Gordon McBean, Holly Dolan, Paul Kovacs. 2005. *Enhancing Local Level Emergency Management : The Influence of Disaster Experience and the Role of Households and Neighbourhoods*. Paper Series, Toronto: Institute for Catastrophic Loss Reduction.
- Cabe, Larry Mc. 2012. *Goderich Tornado: Disaster to Planning to Rebuild*. Presentation notes, Goderich: Town of Goderich.
- Canada, Government of. 2012. *Infrastructure Canada*. September 14. Accessed April 1, 2015. <http://www.infrastructure.gc.ca/regions/on/on-prof-eng.html>.
- Canada, Public Safety. 2014. *Disaster Assistance Programs*. March 03. Accessed November 22, 2014. <http://www.publicsafety.gc.ca/cnt/mrgnc-mngmnt/rcvr-dsstrs/dsstr-ssstnc-prgrms/index-eng.aspx>.
- Collins, Helen. 2014. *ODRAP Expenditures*. Confidential Financial Report on Program Expenses, Toronto: Ministry of Municipal Affairs and Housing.
- E-laws. 2009. *Emergency Management and Civil Protection Act*. Ontario.
- E-Laws, Service Ontario. 2009. *Emergency management Act and Civil Protection Act*. December 15. Accessed November 20, 2014. http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90e09_e.htm.
- Emergency Management Ontario. 2015. *Emergency Management Ontario-Courses*. February. Accessed April 09, 2015. https://training.emergencymanagementontario.ca/TPOnline/TPOnline.dll/EMO_Home.
- Essa, Town of. 2013. *Wilson Questions Province on Refusal to Provide Disaster Relief for Angus Tornado Victims*. Accessed April 2, 2015. <http://www.essatownship.on.ca/Pages/EMERGENCY.aspx>.
- Etkin, Niru Nirupama and David. 2012. "Institutional Perception and Support in Emergency Management in Ontario Canada." *Disaster Prevention and Management* 599-607.
- Government of Canada. 2014. *Public Safety Canada-Emergency Management Planning*. March 04. Accessed May 12, 2015. www.publicsafety.gc.ca.
- Haggart, Blayne. 2004. *Natural Disasters: Insurance Availability and Affordability*. Report, Ottawa: Parliament of Canada, 1-23. Accessed May 11, 2015. www.parl.gc.ca/content/LOP/ResearchPublications/prb0354-e.htm.
- Haggart, Blayne. 2004. *Natural Disasters: Insurance Availability and Affordability*. Report, Ottawa: Parliament of Canada.

- Henstra, Daniel. 2010. "Explaining Local Policy Choices: A Multiple Streams Analysis of Municipal Emergency Management." *Canadian Public Administration* 53 (2): 241-258.
- . 2013. *Multilevel Governance and Emergency Management in Canadian Municipalities*. Montreal: McGill-Queens University Press.
- Henstra, Daniel. 2011. *Municipal Emergency Management*. Report, Mountain View California: Creative Commons Attribution-NonCommercialNoDerivs.
www.crhnet.ca/sites/default/files/library/Henstra.pdf.
- Henstra, Daniel. 2011. "The Dynamic of Policy Change: A longitudinal Analysis of Emergency Management in Ontario." *The Journal of Poicy History* 23 (3): 400-428.
- Henstra, Gordon Mc Bean and Dan. 2005. "Canadian Disaster Management Policy: Moving Toward a Paradigm Shift." *Canadian Public Policy* 303-318.
- Henstra, Gordon McBean and Daniel. 2004. *The Role of Government in Services for Natural Disaster*. Report, London: Institute for Catastrophic Loss Reduction.
- Housing, Ontario Municipal Affairs and. 2012. *Ontario Diaster Relief Assistance program*. June 6. Accessed November 24, 2014. <http://www.mah.gov.on.ca/Page237.aspx>.
- Insurance Bureau of Canada. 2011. *Goderich Tornado*. toronto, December.
<http://www.ibc.ca/yt/disaster/wind/goderich-tornado>.
- Izadkhan, Mahmood Hosseini and Yasamin. 2010. "Training Emergency Managers for Earthquake Response: Challenges and Opportunities." *Disaster Prevention and Management* 19 (2): 185-198.
- Kuban, Ron. 1996. "The Role of Government in Emergency Preparedness." *Canadian Public Administration* 39 (2): 239-244.
- Kunreuther, Howard. 1996. "Mitigating Disasters through Insurance." *Journal of Risks and Uncertainty* 171-187.
- Levine, Gregory J. 2008. *Comment on Hamilton's Proposal Draft By-law RE: the Integrity Commissioner*. May 08. Accessed December 2, 2014.
<http://publish.uwo.ca/~glevine/GovtEthicsLaw/index.html>.
- Magnusson, Warren. 2005. "Are Municipalities Creatures of the Province?" *Journal of Canadian Studies* 5-29.
- Mankin, Ronald W. Perry and Lawrence D. 2005. "Preparing for the Unthinkable: Manager, terrorism, and the HRM function." *Public Personnel Management* 175-193.
- McEntire, David A. 2005. "Why Vulnerability Matters: Exploring the Merit of an Incusive Disaster Reduction Concept." *Disaster Prevention and Management* 14 (2): 206-222.
- Municipal Adaptation and Resiliency Service (MARS). 2012. *Great Lakes and St. Lawrence Cities Initiative*. Accessed April 3, 2015.
<http://www.glslcities.org/initiatives/MARS/Fact%20Sheet%20Goderich%20Final.pdf>.

- Municipal Association of Victoria. 2011. *The Role of Local Government in Emergency Management* . Position Paper , Victoria, Australia: Municipal Association of victoria.
- Newkirk, Ross T. 2001. "The Increase Cost of Disasters in Developed Countries: A Challenge to Local Planning and Government." *Journal of Contingencies and Crisis Management* 159-170.
- Newkirk, Ross T. 2001. "The Increased Costs of Disasters in Developed Countries: A Challenge to Local Planning and Government." *Journal of Contingencies and Crisis Management* (Blackwell Publishers Ltd.) 9 (3): 159-170. Accessed November 20, 2014.
- Newkirk, Ross. T. 2001. "The Increase costs of Disasters in Delevoped Countries: A Challenge to Local Planning and Government." *Contingencies and Crisis Management* (Blackwell Publishers Ltd.) 9 (3).
- NEWS, CBC. 2011. *Goderich to receive \$5M in disaster relief*. Goderich, August 22. Accessed April 3, 2015. <http://www.cbc.ca/news/canada/goderich-to-receive-5m-in-disaster-relief-1.1025558>.
- Niemczak, Peter. 2001. "Emergencies Act ." *Canadian Federal Government*. October 10. Accessed November 24, 2014. <http://publications.gc.ca/Collection-R/LoPBdP/BP/prb0114-e.htm>.
2012. *Ontario Disaster Relief Assistance Program*. June 13. <http://www.mah.gov.on.ca/Page237.aspx>.
- Ontario Government. 2015. *Ontario Disaster Assistance Relief Program*. January 15. Accessed April 1, 2015. <http://www.mah.gov.on.ca/Page237.aspx>.
- Ontario Ministry of Community Safety and Correctional Sevices . 2012. *Inside Emergency Management* . October 22. Accessed April 15, 2015. http://www.emergencymanagementontario.ca/english/insideemo/CoreValues/core_values.html.
- n.d. *Ontario Municipal Affairs and Housing* . Accessed December 15, 2014. <http://www.mah.gov.on.ca/AssetFactory.aspx?did=4475>.
- Ontario, Province of. 2010. *Ontario's Emergency Management Doctrine*. document, Toronto: Ontario Government .
- Pearce, Laurie. 2003. "Disaster Management and Comminuty Planning and Public Participation: How to Achieve Sustainable Hazard Mitigation." *National Hazards* 211-228.
- Press, The Canadian. 2011. *Goderich to receive \$5M in disaster relief*. Goderich, August 22.
- Report, Confidential Inter-departmental. 2014. *Ontario Disaster Relief Assistance Program Discussion Notes*. London: Ministry of Municipal Affairs and Housing.
- Rosen, Phillip. 2001. *Emergencies Act*. October 10. Accessed Novmber 20, 2014. [http://publications.gc.ca/Collection-R/LoPBdP/BP/prb0114-e.htm#SUMMARY_OF_THE_EMERGENCIES_ACT\(txt\)](http://publications.gc.ca/Collection-R/LoPBdP/BP/prb0114-e.htm#SUMMARY_OF_THE_EMERGENCIES_ACT(txt)).
2013. *Service Ontario E-Laws*. December 12. Accessed December 02, 2014. http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_01m25_e.htm#BK244.

- Sommers, James H. Svava and Scott. 2009. "Assessing and Managing Environmental Risk: Connecting local government with Emergency Management." *Public Administration Review* 181-193.
- Staff. 2012. *Ontario Ministry of Community Services and Correctional Services* . October 02. Accessed December 15, 2014.
http://www.emergencymanagementontario.ca/english/emcommunity/response_resources/plans/provincial_emergency_response_plan.html.
- Staff, County of Huron. 2011. *County of Huron*. 12 09. Accessed November 22, 2014.
<http://www.huroncounty.ca/newsroom/newsdisplay.php?articleID=1097&archived=1§ionID=1>.
- Staff, Hamilton Community News. 2009. *Hamilton Community News*. October 29. Accessed November 22, 2014. <http://www.hamiltonnews.com/news/minister-defends-city%E2%80%99s-disaster-relief-rejection/>.
- Staff, History.com. 2010. *Reaction to 9/11*. Accessed November 15, 2014.
<http://www.history.com/topics/reaction-to-9-11>.
- The National Round Table on the Environment and the Economy. 2013. *Paying the Price: The Economic Impacts of Climate Change for Canada*. Report, Ottawa: The National Round Table on the Environment and the Economy.
- The Parliament of Canada. 2004. *National Emergencies: Canada's Fragile Front Lines Upgrade Strategies*. Document , Standing Senate Committee on Nation Security and Defense, Ottawa: Government of Canada , 1-367.
<http://www.parl.gc.ca/content/sen/committee/373/defe/rep/rep03vol2part2-e.htm>.
- Wikipedia. 2015. *Middlesex Centre*. June 03. Accessed July 10, 2015.
https://en.wikipedia.org/wiki/Middlesex_Centre.
- . 2015. *Natural Disaster*. May 11. Accessed May 12, 2015. en.wikipedia.org/wiki/Natural_disaster.
- Wynne, Kathleen. 2014. "2014 Mandate letter: Municipal Affairs and Housing." *Ontario Government* . September 25. Accessed April 02, 2015. <https://www.ontario.ca/government/2014-mandate-letter-municipal-affairs-and-housing>.