Improving the Policy Development Process through Social Learning: an Evaluation of Advisory Committees using the Provincial Nutrient Management Advisory Committee

by

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Successful policy development requires collaborative planning, stakeholder participation, and effective knowledge transfer to develop trust and understanding among stakeholders; essentially social learning must take place in order to ensure policy formations are effective and sustained. It is thought that advisory committees fulfill these requirements for successful policy development. The Provincial Nutrient Management Advisory Committee (PNMAC) was used as a case study in assessing the suitability for stakeholder advisory committees as social learning and stakeholder participation processes. Interviews with PNMAC members were analyzed in revealing stakeholder perspectives and social learning tools that existed in the advisory committee process. Theories of collaborative planning, citizen participation, and social learning were used in analyzing these findings. Findings showed that advisory committees do foster social learning, through changes in stakeholder attitudes and trust development. Implementation benefits are limited to stakeholder groups’ abilities to disseminate knowledge and stakeholder group developments to their respective communities of practice.
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CHAPTER 1

INTRODUCTION

As the complexity and exigency for effective and legitimate environmental and natural resource management continues to increase, the requirement for greater stakeholder involvement in policy evaluation, decision making, and revision is ever more urgent. The nature of stakeholder participation in Ontario has largely taken the form of stakeholder advisory committees in addressing environmental and natural resource planning and management. Advisory committees, as a democratic stakeholder participation process, have been successful in their decision making capabilities; however, there is legitimate concern with regards to these processes’ final phase of implementation and further public engagement. Successful policy development requires collaborative planning, stakeholder participation, and effective knowledge transfer to develop trust and understanding among stakeholders; essentially social learning must take place in order to ensure policy formations are effective and sustained. It is thought that stakeholder advisory committees fulfill these requirements for successful policy development.

There is, however, limited available information regarding the roles which learning and knowledge transfer, through meaningful dialogue, have in the development of policy. Riege and Lindsay (2006) confirm in noting that “[h]ow knowledge management theories and frameworks are applied in the public sector is not well understood due to little evidence being published in the literature” (p. 24). This research investigates the processes involved between stakeholders that resulted in the revised development and implementation of policies and strategies relating to Nutrient Management policy in Ontario. The specific collaborative and social capital building processes executed in this development are of large focus; specifically those of communication and conflict resolution, learning, and trust development. With future policy developments adopting similar identified processes, minimum conflict among the regulator and the regulated is argued to be achievable.

The agriculture industry in Ontario has been consistently plagued with complex environmental policy issues arising from multi-stakeholder interests, both farm and non-farm oriented. Contention in this industry has been significantly influenced by the events of the Walkerton tragedy in 2000. This level of conflict is largely the reason why nutrient management
regulation and the Provincial Nutrient Management Advisory Committee (PNMAC) were selected as a case study. With social learning and benefits for policy implementation argued to have occurred during the specific PNMAC process, wrought with conflict and opposing interest groups, similar results should be easily drawn from less controversial processes. This being said, the findings and scope of this research can be directly applied to any similarly structured advisory committee, regardless of industry or policy type.

Collection of data for this research paper was retrieved from semi-structured interviews conducted with members of the PNMAC as well as the Ontario provincial agency staff members present and participating in the committee meetings. The research goals of this project required the committee stakeholder interest groups to be classified as one of the following: Farming community, municipal, provincial government, or Environmental Non-Government Organization (ENGO). The use of an extremely simplified Delphi method for interviewing committee members was utilized in gathering the perspectives and attitudes of each interest group regarding one another. Due to a lack of existing work previously executed on the actual social processes that occur during advisory committees, this method for data retrieval was well suited. This research relies on the unique perspectives and experiences of the committee members belonging to the various interest groups specified above. A highly narrative approach for this research paper allows for a clear illustration of the unique conflicts, communication processes, perspectives, and social developments that occurred during the PNMAC process.

The organization of this research paper is as follows: Chapter 2 – the Literature Review section provides a detailed discussion and analysis of what is argued to be the underlying framework for successful and legitimate stakeholder involvement in agricultural and environmental management decision making. After the essential theory has been provided in the sphere of stakeholder involvement, this paper then refines the definition of what citizen participation is and what form of participation exactly advisory committees take. This section will conclude with an explanation of how social learning theory and the advisory committee process can significantly aid in the implementation phases of policy formation. Chapter 3 provides the reader the necessary background to nutrient management in Ontario. An overview of both the impacts nutrients can have on the environment as well as Ontario’s residents and the current regulatory management of these nutrients is executed. This is largely done through a brief summary of Ontario’s Nutrient Management Act (NMA) and Ontario’s Regulation 267/03
Chapter 4 – the Methodology and Case Study section outlines the interviewing process which was executed as well as an outline of the case study utilized. An introduction to the PNMAC and its structure is offered; this includes a closer look at the individual organizations and industries which were present during the PNMAC process and utilized for this research. An overview of the limitations and constraints of this research is also offered here.

Chapter 5 – the Results and Discussion sections of this thesis have been combined due to the narrative nature of the results. Each subsection of the detailed interview results will include an interpretation as to how these findings help answer the research questions. Chapter 6 – a Recommendations section suggests the necessary modifications to advisory committee processes that should be adopted in order to improve eventual policy implementation; as per research findings. Conclusions section will offer the reader a summary of the research findings as well as future research possibilities.
CHAPTER 2

LITERATURE REVIEW

2.1. Collaborative Planning Theory

In realizing the numerous stakeholders affected by planning and policy decisions there is equal need for numerous stakeholders to be involved in the decision making process of planning and policy developments at all levels. This realization suggests an emerging paradigm in planning practice as numerous assumptions, research, and thought processes focusing on collaborative methods of planning are increasing among planning professionals and scholars (Innes, 1995). As a normative theory, collaborative planning is based on the idea of planning through communicative action (Lawrence, 2000). To expand on the idea of collaborative planning as a communication based theory, Bentrup (2001) has outlined the following as the fundamental characteristics of collaborative based planning in that it involves: a) an interdisciplinary approach and cross disciplinary integration, b) stakeholders educating each other, c) informal face to face dialogue among stakeholders, d) continuous stakeholder participation throughout the planning process, e) the encouragement of stakeholder participation in order to create a holistic plan, f) joint information searches to determine facts, and g) the consensus of stakeholders in order to make decisions. Taking into consideration the characteristics of the collaborative approach to planning, it can be said that a more democratic planning process is achieved.

An essential feature of the collaborative approach to planning theory is that it addresses the issue of knowledge acquisition and utilization similar to that of Hillier’s (1995) work The Unwritten Law of Planning Theory: Common Sense. Hillier (1995) recognizes the importance of a third type of knowledge other than that of scientific knowledge or technical skill/knowledge; episteme and techne respectively. Hillier (1995) introduces the importance of phronesis to the process of planning, the importance of common sense. Hillier states that the “[p]lanning practice involves moral and practical judgements. It involves an appreciation of what matters and to whom, whether it is a planner reporting to the boss about a meeting held with developers, writing a reply to a question for the Minister, or talking with taxpayers and environmentalists”(p.292).
In realizing that the planning process occurs in a real world engulfed with uncertainty, Hillier is adamant in stating that “[f]lexibility of thought and practice based on reflection are more important than adherence to theoretical or actual rule books and policy manuals. Therefore, planners need to use common sense” (p.292). This statement strengthens the belief that through the equal consideration and involvement of all stakeholders the best decisions will be made.

As mentioned earlier in this section, the collaborative planning theory is entrenched with the importance of multi-stakeholders and multi-interests/views. Hillier (1995) uses the term the other to describe those that resist the rules and policies which we as a society attempt to impose on them. They also have the ability to influence the way we achieve planning goals and in essence our thought processes pertaining to specific issues (Hillier, 1995). Hillier (1995) reveals the necessity for collaborative planning to participate in a reflexive exchange with various stakeholders. “For a reflexive exchange to be positive, it requires us to have an openness to the other, a willingness to listen and take the other’s claims seriously” (Hillier, 1995, p. 293). Innes and Booher (2002) offer a model similar to reflexive exchange in their network power model, this is illustrated below in Figure 1. The network power model takes a similar stance to reflexive exchange in the fact that it recognizes the importance of meaningful dialogue between all decision making stakeholders. Recognizing and developing common interests and beliefs among varying stakeholders through the process of collaboration and building towards cooperative actions outlines the network power model (Innes and Booher, 2002).

![Figure 2.1. The Network Power Model (Innes and Booher, 2002)](image)
Expanding on the issues of knowledge and Hillier’s (1995) reflexive exchange, the collaborative approach to decision making and planning processes also addresses the notion of power and its potential impacts on decisions made. Finnigan et. al. (2003) indicates that “[o]ne underlying assumption of [collaborative planning] is a balance of power among stakeholder groups to ensure that all relevant interests are adequately represented in the process. A concern is that if some stakeholders—such as community groups—have fewer resources to participate in [collaborative planning], stronger stakeholders can dominate the process and bias outcomes” (p. 1). In order to properly account for any instances of such power oriented biases, scholars such as Vermeule argue for the application of such rules as the veil of ignorance. Vermeule (2001) indicates that the “…veil of ignorance rule (more briefly a veil rule) is a rule that suppresses self-interested behaviour on the part of decision makers; it does so by subjecting the decision makers to uncertainty about the distribution of benefits and burdens that will result from a decision” (p. 399). The application of such a rule reinforces the notion of reflexive exchange and influences the uptake of all stakeholders’ interests, regardless of power or access to resources (i.e. knowledge, money, etc.).

The collaborative planning theory describes the planning professional as a facilitator in the decision making process (Innes and Booher, 2002). Through the facilitation of stakeholder meetings, open dialogue, and free flowing information/knowledge sharing it is becoming increasingly evident that planners occupy key roles in decision making processes (Innes and Booher, 2002). In addition to creating the actual opportunities for discussion to take place, planning professionals work towards building trust and revealing shared interests among stakeholders (Innes and Booher, 2002). Creating a more trustworthy atmosphere for dialogue and collaboration to take place in also aids the planner in mobilizing actions agreed upon by involved stakeholders (Innes and Booher, 2002).
2.2. Stakeholder Participation in the Policy Process

2.2.1. Arnstein’s Ladder of Participation

Sherry R. Arnstein (1969) comments on the idea of citizen participation in that it “is a little like eating spinach: no one is against it in principle because it is good for you. Participation of the governed in their government is, in theory, the cornerstone of democracy – a revered idea that is vigorously applauded by virtually everyone” (p.216). Citizen participation has been described as the redistribution of power among those individuals who have been repeatedly oppressed and excluded from government and economic decision making so as to deliberately participate in the future. Arnstein (1969) notes how citizen participation is “the strategy by which the have-nots join in determining how information is shared, goals and policies are set, tax resources are allocated, programs are operated and benefits...are parcelled out” (p.216). In all aspects it is an avenue for which the typically excluded individuals in societal decision making can bring about social reform; ultimately lending them the opportunity to have a share in wealth of society (Arnstein, 1969).

Arnstein’s work has offered a typology of citizen participation ranging from the lowest level of citizen participation; essentially non-participation in the form of manipulation and therapy to the highest levels of participation; delegated power and citizen control (Arnstein, 1969). Arnstein (1969) describes the lowest form of participation as non-participation; that of manipulation and therapy. Here, decision makers’ objectives can be described as educating and curing the participants, rather than have them fully or even partially participate in the process. From here Arnstein (1969) progresses to the lower levels of tokenism, informing and consultation, where participants are able to hear and be heard in the decision making process. Participation in this case however lacks the ability for the consulted to insure their perspectives will be incorporated into the process by the decision makers. Arnstein (1969) describes this level of participation as having no “muscle”; where participants have no forum to actively influence the decisions made or the decision making process. The highest and 3rd level of tokenism, known as placation, separates itself from the lower forms in that there is a clear forum for influencing the decisions made on behalf of the participants (Arnstein, 1969). Placation allows for participants to advise the decision makers; the decision making power itself, however, rests
still in the hands of the regulator (Arnstein, 1969). The highest levels of participation are categorized as degrees of citizen power, where participants first obtain actual decision making power (Arnstein, 1969). The lowest degree of citizen power comes in the form of partnerships where participants and decision makers engage in negotiating and trade-off tactics in order to better their situation; essentially allowing participants some control in the decision making process (Arnstein, 1969). Arnstein (1969) describes the two highest degrees of citizen power, delegated power and citizen control, where participants gain the majority of decision making role or when complete management is achieved on behalf of the participants, respectively.

For the purpose of this literature review however, the degree of tokenism, placation, has been identified in Arnstein’s ladder of participation which accurately suits the stakeholder advisory committee process (Arnstein, 1969). As noted earlier, placation is the highest form of citizen participation taking the form of tokenism; its level of participation supersedes consultation and informing as well as the other forms of non-participation (Arnstein, 1969). Although placation is categorized as a form of tokenism, it is at this point on the scale of citizen participation where stakeholders start to obtain some form of influence (Arnstein, 1969). Using the Model Cities advisory and planning committees as examples, Arnstein (1969) depicts how governments “allow citizens to advise or plan ad infinitum but retain for powerholders the right to judge the legitimacy or feasibility of the advice. The degree to which the citizens are actually placated, of course, depends largely on two factors: the quality of technical assistance they have in articulating their priorities; and the extent to which the community has been organized to press for those priorities” (p.220). To this extent it is arguable that citizen and stakeholder advisory committees and more specifically, the Provincial Nutrient Management Advisory Committee (PNMAC) are, as stakeholder participation processes are concerned, a form of placation. As a concluding remark with regards to levels of citizen participation and advisory committees as a form of placation; it is absolutely necessary for the roles, responsibilities, and expectations of the advisory committee and its participants to be clearly defined (Arnstein, 1969). If these aspects are left ambiguous and the expected outcomes are not defined, there is great potential for conflict to arise near the termination of the participatory process (Arnstein, 1969). In essence, Arnstein (1969) notes, “citizens may realize that they have once again extensively participated but have not profited beyond the extent the powerholders decide to placate them” (p.220).
2.2.2. The Role of Learning in the Policy Process

Riege and Lindsay (2006) forward the importance of learning and the notion of knowledge attainment and transfer in stating that “[t]he better the knowledge base upon which public policies are built, the more likely they are to succeed. In particular, good public policy seems to emerge when knowledge possessed by society is transferred effectively to governments and when public policy options in turn are tested via ongoing knowledge transfer between governments and stakeholders, leading up to the release of policy, and followed by ongoing policy review” (p. 25). In order to effectively obtain and utilize knowledge in the formation of policy, the inclusion and involvement of all stakeholders is important. All tiers of government, private industry, and public, all with varying and competing interests, are essential in successful policy development (Riege and Lindsay, 2006). Adopting the collaborative approach to stakeholder involvement improves the understanding of scientific and social implication which various regulatory options may present to stakeholders (Riege and Lindsay, 2006).

Successful policy implementation requires the capacities of the affected stakeholders to be considered. In being inclusive in the policy development process, it is realized that stakeholders will have varying capabilities with regards to knowledge and information access as well as understanding (Steyaert and Jiggins, 2007). Capacities of all stakeholders are challenged in collaborative policy development as some sources of knowledge may not necessarily be practical or applicable in realistic scenarios where regulation is intended.

Increasing stakeholder participation in policy development, both in the amount of stakeholders or stakeholder groups included as well as in the level of participation allowed for can greatly benefit the integrity of the decision making process. Not only does greater participation increase the knowledge base for utilization in decision making, it can also greatly increase our understanding of how that knowledge and information will be interpreted and used. Pahl-Wostl et. al. (2008) acknowledge the notion that deficiencies in policy development and implementation are not solely rooted in our lack of understanding of the science or functions of our natural environment, but in that of our understanding of how social constructs interact with these environments. It is important to recognize how our understandings of social-environmental interactions influence the science and knowledge which our policies are based upon (Pahl-Wostl et. al., 2008). An example of how social context and interest can greatly influence the outcome
of produced policy can be witnessed in past Netherlands dairy production policy (Eshuis and Stuiver, 2005). With the Netherlands’ agricultural community continuously striving for higher yield capabilities and the resulting available research reflecting these endeavours, the scientific knowledge and information available for dairy production policy makers largely neglected the notion of sustainability (Eshuis and Stuiver, 2005). This of course led to the development of dairy production policy in the Netherlands that insufficiently addressed sustainability and environmental concerns related to dairy production (Eshuis and Stuiver, 2005).

In addition to understanding how the science represented in policy came to be, there is also the need to understand that not all knowledge (scientific or otherwise) can be utilized in every scenario or context. The general notion that science is universally valid is argued against here; that science cannot be applied or may not be practical in every environment or able to be used by every stakeholder (Eshuis and Stuiver, 2005). Scientific knowledge, as mentioned earlier, is argued to be socially generated in a context specific local such as in a laboratory, in a test plot, or any other environment (Eshuis and Stuiver, 2005). Environments where scientific knowledge is generated can entail infinite and unique conditions that may not be replicated or present elsewhere even in environments of close proximity (Eshuis and Stuiver, 2005).

Concerning ourselves with the notion of sustainable agriculture, this partially explains why some policies (e.g. nutrient management regulations, etc.), grounded in science, may not be feasible or realistic in every environment, location, or amongst every stakeholder (Eshuis and Stuiver, 2005). The idea of ground-truthing in the remote sensing field can be adapted to the notion of effective policy implementation. According to Vajjhala (2006), ground truthing in the remote sensing field is defined as “...the process of verifying satellite images with what is already known about the location on the ground” (p. 14). Concerning ourselves with the successful implementation of policy, policy makers need to ensure that the intended regulations are actually feasible and realistic on the ground. In essence, the regulated, those impacted by policy (e.g. farmers, pulp and paper industry, etc.) need to be able to effectively comply and follow the regulations imposed upon them. There is a significant need for policy development to work on paper as well as work on the ground level or in the field per se.

Concerning ourselves with the knowledge management issues mentioned above, it is evident how an increase in successful and meaningful communication between stakeholder groups and those involved in the development of policy (e.g. provincial government, scientists,
etc.) is needed. Eshuis and Stuiver (2005) argue for increased communication in noting that “scientists and farmers need to engage in dialogue and cooperate in order to create suitable knowledge” (p. 137). With increased communication occurring between the regulated (e.g. farmers, agribusinesses, etc.) and the regulator (e.g. provincial government, MOE, OMAF, etc.) it is argued that knowledge can be related to the specific socio-spatial environment where the knowledge is to be applied. A significant portion of this research paper focuses on the communication and interactions which occur during advisory committee processes between stakeholders themselves as well as between stakeholder interest groups and the provincial government (e.g. policy makers). Eshuis and Stuiver (2005) forward the need for further research in realizing how “to date the dynamics of actual cooperative development of knowledge have been insufficiently analyzed” (p. 137). There are significant contributions which effective dialogue between policy makers and the affected stakeholders can produce. Aside from the earlier mentioned benefits regarding the integrity of knowledge available for policy, benefits of meaningful dialogue include the development of trust between actors as well as an increased understanding of all stakeholders and the knowledge they provide. The need to further investigate the role of meaningful interaction between the regulated and the regulator is forwarded by Riedge and Lindsay (2006) as the suggest that “[m]ore qualitative empirical research is required to explore [knowledge management]-driven public policy development issues. This includes an examination of the suitability of the frameworks for different types of public policy, investigating issues such as complexity and social versus economic objectives, together with greater consideration of practical issues faced by governments.”(37).

2.3. Social Learning and Successful Policy Implementation

2.3.1. Social Learning

Albert Bandura (1971) pioneered the traditional understanding and description of Social Learning through his Social Learning Theory work, however, this definition and use of social learning is not consistent with the aims of this paper. Bandura’s theory of social learning describes individualistic learning in a social context (Bandura, 1971). In very general terms, Bandura describes social learning as the influence which social norms, observation, and reaction
to interior and exterior stimuli have on one's behaviour (Bandura, 1971). Bandura’s description of social learning varies immensely from the definition Pahl-Wostl et al. (2008) offers. Pahl-Wostl et al. (2008) suggest that social learning is “a process of social change in which people learn from each other in ways that can benefit wider social-ecological systems. Originating from concepts of organizational learning, this second school of thought is informed by social theories of learning, which define learning as active social participation in the practices of a community, and emphasize the dynamic interaction between people and the environment in the construction of meaning and identity” (p. 2). The description of social learning offered by Pahl-Wostl et al. (2008) is consistent with the research purpose of this paper. Similar definitions and descriptions of social learning have been offered by Reed et al. (2010) who defines social learning as “a change in understanding that goes beyond the individual to become situated within wider social units or communities of practice through social interactions between actors within social networks” (p. 6). Keen et al. (2005) also offer an extremely well suited definition of social learning for this paper in stating that social learning is "the collective action and reflection that takes place amongst both individuals and groups when they work to improve the management of the interrelationships between social and ecological systems" (p. 4). Not only do these three authors’ definitions of social learning vary greatly from Bandura’s (1971) traditional notion of social learning theory, they also distinctly address the ecological and social context of learning; this further strengthens the decision to utilize these definitions when concerning ourselves with natural resource and environmental issues and decision making.

For social learning to occur during any process, Reed et al. (2010) argues that “the process must: (1) demonstrate that a change in understanding has taken place in the individuals involved; (2) demonstrate that this change goes beyond the individual and becomes situated within wider social units or communities of practice; and (3) occur through social interactions and processes between actors within a social network” (p. 1). Recognizing these 3 process requirements, it becomes increasingly understandable how successful policy development and implementation requires social learning to take place.

Concerning ourselves with Reed et al.’s (2010) first requirement for social learning, the requirement that a change in understanding has taken place in those involved, this change in understanding can be resultant of instrumental, communicative, or transformative learning processes. According to Reed et al. (2010) instrumental learning is characterized by acquiring
new knowledge or skills, communicative learning is characterized by using communication with
others in understanding and reinterpreting knowledge and transformative learning is
characterized by changes in attitudes, behaviours, and social norms through the examination of
rooted assumptions. In realizing the importance of distinguishing various learning processes,
Reed et. al. (2010) also offers clarification between single, double, and triple loop learning
processes. When we learn as a result of specific actions and the consequences of these actions,
this is referred to as single loop learning. Double loop learning, similar to transformative
learning, involves the reflection of the assumptions which direct our understanding of knowledge
and behaviours (Reed et. al., 2010). When we learn through analyzing and critiquing the values,
norms, and thought processes that underlie our assumptions and actions this is considered triple
loop learning (Reed et. al., 2010). Reed et. al. (2010) suggests that social learning can indeed
occur at any one of these levels of learning. It is important to realize however, that although
learning may have occurred, Reed et. al. (2010) state the need for “changes in attitudes, behavior,
and norms, and the building of trust, respect, and shared goals” to occur in order for the process
to be thought as social learning (p. 3). Reed et. al. (2010) offer the example of declining
drinking and driving behaviour attributed to public awareness campaigns. Although considered
a single loop learning process, these drinking and driving awareness initiatives, having reached a
broad enough scale through social interaction, could have initiated a social learning process. In
this example, Reed et. al. (2010) states that “…public awareness campaigns in many countries
have altered the values and beliefs of those within drunk drivers’ social networks, leading to
shame and embarrassment in all but the most hardened of repeat offenders” (p. 4).

As mentioned above, social learning can be characterized as learning that occurs within
wider social units or communities of practice (Reed et. al., 2010). For any learning process to be
considered social learning there must be an indication that a change in understanding or learning
has occurred beyond the individuals groups (e.g. farming community members) involved in the
process at hand (e.g. Provincial Nutrient Management Advisory Committee) to become situated
within the wider social units (e.g. the farming community in Southern Ontario) (Reed et. al.,
2010). Reed et. al. (2010) argue the case that it may be possible for these wider social units to
learn; to significantly change their understanding, values, norms, and behaviours. Having
institutions or communities of practices themselves learn and change their understanding differs
significantly from simply a large group of individuals actively learning independently (Reed et.
al., 2010). Reed et. al. (2010) recognize the potential for group and social processes to actually limit the knowledge acquisition, learning, and change of understanding of individual participants; this can occur when shared and closed perspectives of any given issue or scenario arise. Reed et. al. (2010) note however, that substantial evidence exists that suggest “…that collective learning can perform better than the sum of individual learning, as demonstrated in studies of organization learning and the “wisdom of crowds”. Ensuring that social learning occurs during any learning or group process is not an easy task. This is especially true when we consider the necessity for a change in understanding to occur within the larger and wider social units represented in the learning or group process at hand. The task of effectively diffusing the knowledge, ideas, and attitudes learned by all members of the smaller group (e.g. farming PNMAC members) to the members of the larger community of practice or social network they represent is crucial (Reed et. al., 2010). Instances where a larger community of practice or stakeholder group is represented by a few members is becoming increasingly popular; advisory committees for instance. In order for advisory committees to be considered effective the ideas, beliefs, and newly adopted understandings of any give scenario or practice needs to be effectively disseminated to the larger population which each advisory committee member represents.

With successful policy development and implementation becoming increasingly exigent in the management of natural resources, the role of social learning in the policy process has been recently argued for. Pahl-Wostl et. al. (2008) argues the need for a change in direction of the natural resource management regime. The notion where the government is the single decision maker in a “prediction and control” approach to natural resource management is said to be ever more so out of date (Pahl-Wostl et. al., 2008, p. 1). Pahl-Wostl et. al. (2008) note the inability of the “…instrumental “prediction and control” approach, dominated by technical end of- pipe solutions” to address the issues accompanied by “…growing uncertainties, increasing rates of change, different stakeholder perspectives, and growing interdependence…” that characterize the current natural resource management scenario (p. 1). Although the traditional top down approach to natural resource and environmental management has resulted in many beneficial results, the use of treatment (e.g. waste water treatment) instead of source control (e.g. nutrient management) and structural management (e.g. dykes, reservoirs, etc.) instead of non-structural
measures (e.g. land use planning, source water regulation, etc.) have proved insufficient (Pahl-Wostl et. al., 2008).

The management of natural resources and the environment is becoming increasingly contentious and complex. This increase in contention and complexity can be partially attributed to the paradigm shift currently being witnessed within the realm of natural resource and environmental management. Environmental decision making is becoming less and less solely executed by the centralized state or government and is becoming increasingly influenced by numerous and diverse stakeholders (Pahl-Wostl, 2008). Stakeholders with diverse and often conflicting interests are becoming more and more aware, informed, and involved in the management of what can be deemed, their environment. Pahl-Wostl et. al. (2008) recognize this shift in the way environmental issues are handled in addressing the introduction of the notion of governance:

“The introduction of the term “governance” signalled a change in thinking about the nature of policy. The notion of government as the single decision-making authority exerting sovereign control over its citizens has been replaced by multi-scale, polycentric governance approaches that recognize the contribution of a large number of stakeholders, functioning in different institutional settings. Governance takes into account the increasing importance of basically non-hierarchical modes of governing, where non-state and private corporate actors (formal organizations) participate in the formulation and implementation of public policy. It thus encompasses a broad range of processes related to the coordination and steering of a wide range of actors by formal and informal institutions” (p. 1).

Effective natural resource and environmental governance, as a paradigm shift, relies greatly on the concept of social learning. For policies to be effectively implemented, they need to first be legitimately and robustly developed. Although efforts to extend the knowledge base and information available to experts for policy making has not gone without applause, the current focus has been towards acknowledging and integrating new types and sources of knowledge into the policy framework (Pahl-Wostl et. al., 2008). This suggests the incorporation of previously uninvolved participants, sources of knowledge, as well as from previously unsought environments into the decision making process. Not only does broadening the scope of inclusivity and level of participation across various sectors allow for the unearthing of previously neglected knowledge it is also argued to increase society’s capacity to effectively address and respond to dynamic and complex social-ecological scenarios (Pahl-Wostl et. al., 2008). Pahl-
Wostl et al. (2008) stress the importance of not only sourcing out previously neglected knowledge or increasing actor’s capacities to utilize this knowledge, but in developing new relational capacities between actors themselves and between actors and their ecological systems (p. 1). In essence, for policies (regardless of the sector) to be successfully implemented, all actors (e.g. the public, business, government, etc.) are argued to learn how to effectively collaborate with one another and to realize one another’s roles and capacities in dealing with the scenario at hand (Pahl-Wostl et al., 2008). The realization and understanding of the capacities and roles of those affected by policy is colossally important in ensuring that the intended results of policy are met. Various limitations exist when concerning ourselves with the ability for those affected by policy to comply. The regulated may often be unable to sufficiently comply with regulation due to financial/funding reason, a lack of understanding of the regulation requirements, or the policy itself may be simply unrealistic in certain social or environmental contexts (Reed et al., 2010). In summarizing how social learning needs to be increasingly incorporated into the policy and decision making process, Pahl-Wostl et al. (2008) offer the following remark:

“New institutional arrangements are needed to structure the more sustainable relationships, based on new framings of the issues at stake and the agents involved. Therefore, the problem lies in developing new identities, as well as institutions and individual capacities, that are more socially and ecologically robust with the common goal of sustainability” (p. 1).

2.4. Use of Advisory Committees for Environmental Decision Making

It has been observed that within recent years there has been a steady call for greater stakeholder participation in environmental decision making and policy evaluation (Beierle and Konisky, 2000). Industrialized nations around the world realizing the potential benefits for increased stakeholder involvement have suggested that environmental agencies and other related government forums increase their use of collaborative decision making processes (Beierle and Konisky, 2000). The notion for governments to cooperate and collaborate with the larger public has been, according to Beierle and Konisky (2000), “fueled by optimism about its potential to improve the effectiveness and responsiveness of environmental management” (p.515). This optimism may be legitimately reasoned for due to the potential societal benefits of stakeholder
advisory committees outlined here by Beierle and Konisky (2000): increasing the quality of decisions, improving relationships among important players in the decision process, building capacity for managing environmental problems, and leading to real improvements in environmental quality (p.515).

Concerning ourselves with the potential for stakeholder advisory committees to increase quality of decisions; stakeholder advisory committees do not necessarily increase or decrease the quality of decision making (Beierle and Konisky, 2000). Beierle and Konisky (2000), however, were adamant in suggesting that stakeholders “can bring additional scientific information and local knowledge to a process”; this is consistent with Hillier’s (1995) notion of phronesis mentioned earlier (p.521). A more recent work of Thomas C. Beierle (2002), The Quality of Stakeholder-Based Decisions, reaffirms the notion of the potential stakeholder involvement has in increasing the quality of decisions. Beierle (2002) rejects the concern for low-quality decision making as a result of increased stakeholder involvement in noting that “[t]he majority of cases contain evidence that stakeholders are making better decisions, contributing new information and ideas, and utilizing technical resources in their decision processes. Interestingly, more intensive stakeholder processes are more likely to produce high-quality decisions than traditional public participation” (p.740)

As the second potential societal benefit of stakeholder advisory committees, improving relationships between stakeholder interests as well as between the regulated and the regulator has been of consistent interest. Environmental decision making has always been plagued with conflicts between stakeholders who favour environmental protection and those who strive to benefit from economic development (McGurk and Sinclair, 2006). It is suggested that when interpersonal conflicts between stakeholders exist, advisory committee processes such as repeated face-to-face meetings have the potential to improve working relationships (Beierle and Konisky, 2000). Beierle and Konisky (2000) argue for the ability of stakeholder advisory committees to improve relations in mentioning that “[i]f conflict regards particular interests, participation may be a way to identify creative solutions which let each party satisfy its interests without minimizing other parties’ abilities to satisfy theirs. If conflict is over fundamental values, participation can at least educate participants about each other, and enable them to understand others’ values” (p.521). Contrary to what they expected, a study conducted by Beierle and Konisky (2000) involving gains or losses in trust through the participation in an
advisory committee, resulted in equal distribution of gains, losses, and insignificant changes of trust. Trust, defined by Raymond (2006) as “a willingness to take risks on the behaviours of others based on the belief that potential trustees will ‘do what is right’ rather than based only on existing institutional incentives, was used in as an indicator for improved relationship in Beierle and Konisky’s (2000) study. Although the above results were unexpected, they are consistent with the proposed role of trust in decision making thought by Raymond (2006); where trust is reduced to a “complementary role” and “largely irrelevant” factor for stakeholder cooperation (p.40 and 41). Essentially trust is hypothesized to be an optional variable in stakeholder cooperation in this case (Raymond, 2006).

The building of capacity for managing environmental problems is offered as the 3rd potential societal benefit forwarded by stakeholder advisory committees and stakeholder participation in general. Beierle and Konisky (2000) describe “[a]n emerging argument for greater stakeholder involvement is that modern environmental problems, such as nonpoint source water pollution, are simply too complicated to be resolved by a single agency through traditional regulatory programs” (p.522). It is argued here that an increased level of stakeholder involvement in both knowledge acquisition and decision making would greatly improve the quality of decisions; decision which would then reflect public values and interests (Beierle and Konisky, 2000). Beierle and Konisky (2000) caution however that “[i]f members of the public, particularly lay people without formal training or specialized knowledge about environmental problems, are to take an active role in environmental management, the importance of education and information is paramount” (p.523). This notion is greatly supported by Tania M. Schusler, Daniel J. Decker, and Max J. Pfeffer’s work *Social Learning for Collaborative Natural Resource Management*.

Schusler et al. (2003) suggest that “public participation plays an increasingly central role in natural resource management despite little systematic knowledge about what works in public participation or other deliberative processes” (p.309). Supporting Schusler et al.’s argument is the larger focus of the research supported by this literature review; the identification of the processes, or lack thereof, involved in stakeholder advisory committees which lead to increased levels of perceived success and success based on policy revision implementation. As mentioned earlier, one of these processes is the deliberative process of social learning. Schusler et al. (2003) define social learning “as learning that occurs when people engage one another, sharing
diverse perspectives and experiences to develop a common framework of understanding and basis for joint action” (p.311). Although it is argued that scientific knowledge is necessary for effective environmental decision making, it is not sufficient. Schusler et al. (2003) suggest that determining management goals requires knowledge that reflects public values, providing purpose and guidance for policy and action” (p.312).

Arguably the most discussed however least researched societal benefit for the use of stakeholder advisory committees in environmental decision making and policy revision is this deliberative process’s final stage; implementation. Numerous participatory processes involving environmental decision making and policy revision have succumbed to less than acceptable levels of further implementation. An example of these shortcomings can be illustrated in Great Lakes Remedial Action Plans (RAPs) initiated by both Canadian and United States governments (Beierle and Konisky, 2000). According to the RAP process, stakeholder involvement was argued for in hopes of generating momentum for the development and execution of restorative actions in the contaminated Great Lakes Area of Concerns (AOCs) (Beierle and Konisky, 2000). Although the development of the program was characterized as a success, the RAP process was largely a failure in its final stage of implementation (Beierle and Konisky, 2000). Beierle and Konisky (2000) indicate that unfortunately “only one of the original 43 AOCs has been delisted, that is, certified by the International Joint Commission as having been cleaned up” (p.524). There is largely no collective agreement as to why specifically stakeholder participations often struggle in the implementation phase (Beierle and Konisky, 2000 and McGurk and Sinclair, 2006). Adding to this, there also seems to be no correlation between the effectiveness of the stakeholder participatory decision making process and the final program of implementation and its progress (Beierle and Konisky, 2000). Beierle and Konisky (2000) reveal that it “just as easy to find cases that suggest a link between good stakeholder involvement in the planning process and good implementation as it is to find cases that refute it” (p. 524 and 525). There are 3 dominant arguments that attempt to explain the shortcomings of the implementation phase of stakeholder based advisory committee processes: the nature of the implementation is far too complex (i.e. provincial budgets, regulatory circumstances, etc.), insufficient time has passed in order to accurately assess the progress of implementation phases, and that the stakeholder decision making process fell short in one manner or another directly compromising the final stage of implementation (Beierle and Konisky, 2000). The nature of uncertainty and
inconclusiveness that exists in these suggestions for deliberative process implementation phase failures strongly encourages further research.
CHAPTER 3

BACKGROUND OF NUTRIENT MANAGEMENT IN ONTARIO

In order to justify researching the effectiveness and perceived successfulness of stakeholder advisory committees for environmental policy evaluation; and in this specific case, nutrient management, it is important to outline some of the potential threats of nutrients in the environment, the Nutrient Management Act, and the Provincial Nutrient Management Advisory Committee (PNMAC).

3.1. Environmental and Health Effects of Nutrients

Numerous unintended environmental and health impacts exist with the use of fertilizers and manure for agricultural purposes. In particular, it is the improper or extensive use of these nutrients over long periods of time that can have significant negative impacts on the environment and potentially human health. Fertilizer or manure runoff into surface water can lead to a build-up of nutrients such as nitrogen and phosphorus in surface water; resulting in the growth of microorganisms such as algae blooms (Wiederholt and Johnson, 2005). This process is known as eutrophication (Wiederholt and Johnson, 2005). The reproduction of these microorganisms reduces the dissolved oxygen content in bodies of water; ultimately rendering these bodies of water uninhabitable for fish and other aquatic species (Wiederholt and Johnson, 2005). In addition to this loss of aquatic species, nutrient build-ups within surface water can also produce toxic species (Wiederholt and Johnson, 2005). For example, the production of blue green algae resulting from increased nitrogen content in water has been known to cause rashes, nausea and respiratory problems in humans (Wiederholt and Johnson, 2005). Extensive or long term overuse and mismanagement of manure or other fertilizers can also have significant impacts on soil quality. Research has found that the use of ammonium-based fertilizers over the long term can lead soil acidification (Wortmann, et al., 2009). Among other impacts, this acidification of soils can lead to reductions in soil biodiversity, reduced crop yields and increases in topsoil erosion (Wortmann, et al., 2009). Repeated use of fertilizers over the long term can also lead to the accumulation of heavy metals in the soil such as mercury, lead and arsenic (EPA, 1999). It is
of significance to also note that use of some fertilizers has been associated with the build-up of radioactive elements within soils (EPA, 1999).

In addition to the negative environmental and health effects caused by nutrients (i.e. nitrogen, phosphorous, etc.) themselves, agricultural applications of livestock sourced fertilizers (i.e. manure) forward significant threat to human health as a result of the presence of livestock pathogens (Wiederholt and Johnson, 2005). Agricultural applications of manure can lead to the direct contamination of drinking water through the introduction of pathogens (e.g. E. coli bacteria) into private and municipal wells, as well as other sources of drinking water (Wiederholt and Johnson, 2005). Introduction of manure pathogens into surface water can occur through agricultural runoff, soil erosion, or where manure is applied or deposited too close to surface water bodies (Government of Alberta, 2011). Groundwater contamination can occur through the leaching of nutrients and livestock pathogens in aquifers as well as entrance through improperly constructed and monitored wells (Government of Alberta, 2011). An example of the human health impacts resulting from the introduction of livestock pathogens into drinking source water can be observed in the Walkerton, Ontario tragedy. In May 2000, the drinking water source for Walkerton, a small town located approximately 150 km northwest of Toronto, became contaminated with Escherichia coli O157:H7 which is a deadly strain of the E. coli bacteria (O’Connor, 2002). Resulting from this contamination, more than 2300 people became ill and seven people died (O’Connor, 2002). Numerous survivors, particularly children, may potentially suffer long term physiological effects (O’Connor, 2002).

Ontario’s population relies on drinking water sourced from surface water in the form of lakes, rivers, and streams as well as ground water from aquifers (Conservation Ontario, 2009). To ensure Ontario residents have access to clean, safe drinking water, local and provincial authorities have to protect source water from contamination. Agricultural practices in Ontario are subjects of concern regarding source water protection; specifically that of nutrient management. Improper storage, handling, and application of manure and fertilizers on agricultural operations can impact surface and ground water quality (Government of Alberta, 2011). A large portion of Ontario’s population relies on aquifer fed wells where agricultural operations take place (Conservation Ontario, 2009).
3.2. The Nutrient Management Act and O. Reg. 267/03

The Nutrient Management Act (NMA), which was passed in 2002, introduced the regulatory framework for setting standards for nutrient management on farms in Ontario. The Act allows for the creation of regulations in 28 general areas including, among others (Government of Ontario, 2009):

- The management of nutrients (size, capacity and location of nutrient storage buildings).
- The amount of materials containing nutrients that may be applied to lands.
- Minimum distance separation requirements from specific features (i.e. wells, surface water, etc.).
- Requirements for the creation of nutrient management plans and strategies.

The first regulation under this act, NMA, O. Reg. 267/03, was passed in 2003 (Government of Ontario, 2012). The NMA uses a calculation method termed nutrient units (NU) to determine which farms must comply with the regulations. NUs are determined based on the expected amount of nutrients generated by a farm. With some minor exceptions, the NMA covers only large livestock operations (generating > 300 NU), and new or expanding farms (Government of Ontario, 2012). Farms which are applying or storing some forms of non-agricultural source material (NASM) and or receive off farm anaerobic digestion materials must also comply with regulations under the NMA (Government of Ontario, 2009). In all cases, the regulations do not apply to farms that generate less than 5 NU (Government of Ontario, 2012).

One of the most important aspects of the O.Reg.267/03 is the requirement for farms falling under the regulation to complete nutrient management plans or nutrient management (Government of Ontario, 2012). Nutrient management plans are required for farms that store or use manure on their land whereas nutrient management strategies are for farms that generate manure (Government of Ontario, 2012). Creating these plans and strategies is a significant undertaking, which requires farms to outline contingency plans and strategies to implement best practices (Government of Ontario, 2012).
The Regulation also restricts a number of farming practices. For example, the regulation introduced restrictions on where farmers can apply nutrients to their land, as well as restrictions for applying nutrients when land is saturated, snow covered or frozen (Government of Ontario, 2012). In addition, the regulations set restrictions for farms related to the application of manure based on: proximity to wells, proximity to surface water, proximity to some buildings, season (i.e. not in winter), depth to bedrock and the slope of the area (Government of Ontario, 2012). The NMA sets restrictions on the storage of manure or NASM based on proximity to wells, field drainage, piped municipal drains, and surface water (Government of Ontario, 2012). The act also sets extensive requirements for storage facilities for manure and NASM. For example, farms falling under the regulation must have a temporary field nutrient storage site that is “capable of containing at least all of the nutrients generated or received in the course of the operation during a period of 240 days” (Government of Ontario, 2012, s.69).

The regulation also creates Local Advisory Committees, which are tasked with mediating conflicts around nutrient management practices between farms and community members within municipalities (Government of Ontario, 2012). As previously mentioned, O. Reg. 267/03 creates a number of regulations that apply to all farms. For example, the regulations prohibits the application of bio-solids during winter and the use of high trajectory irrigation guns capable of spraying liquid more than 10 meters to apply manure or other NASM (Government of Ontario, 2012). In addition, the regulations create rules on the storage of NASM for all farms. More recently, the regulation has imposed requirements on the way to deal with milking centre wash water (Government of Ontario, 2012).

3.3. Nutrient Management Controversy

Although the Walkerton tragedy did throw nutrient management into the spotlight, and instilled substantial fear of industrial agriculture into the minds of non-farming Ontario residents, controversy around nutrient management has a larger story. Prior to the development and enactment of the NMA and O. Reg. 267/03, there was significant concern forwarded by the agricultural community regarding municipal nutrient management regulation. Local regulatory regimes for nutrient management, according to McRobert and Hopkins (2004), was said to be “a complex array of laws and policies, with many gaps and overlaps…” (p. 85). Before the
provincial standardization of nutrient management in Ontario, municipalities were in charge of developing and enforcing their own regulatory regime; this took the form of numerous and often municipally differing by-laws (McRobert and Hopkins, 2004). Ontario’s farming community addressed substantial concerns over the hardships of complying with such varying by-laws, as they often farm in more than one municipality. In addition to the concerns forwarded by the farming community, municipal initiatives were criticized for not addressing emerging intensive agricultural practices and operations, and the environmental impacts they could pose (McRobert and Hopkins, 2004).

Urban encroachment and the increasing tendency for agricultural practices in Ontario to exist in close proximity to urban areas have fueled nutrient management controversy. In addition to the encroachment of urban centers onto Ontario’s farmland, an increasing number of urban residents are migrating to Ontario’s rural communities. According to McRobert and Hopkins (2004), “[i]n the early 1980s, a new wave of urban residents began to migrate to rural areas in many parts of Canada searching for a cleaner environment and a different pace of life. This migration generated increasing conflicts with farmers relating to noise, odours and dust from farms. Eventually, some of these new property owners turned to the courts in the hopes of restricting certain farm activities.” (p. 88). With the intensification of agriculture in Ontario occurring in the midst of these demographic changes, a plethora of concerns regarding air, soil, and water quality arose from the public (McRobert and Hopkins, 2004). Combining the Walkerton tragedy with the industrial transition of agriculture, most notably that of intensive hog farming, a high level of fear of farming operations was witnessed amongst Ontario’s non-farming public (McRobert and Hopkins, 2004). Ontario’s non-farming resident’s idealistic notion of the small family farm was becoming had been significantly jeopardized.

The call for stricter and provincially standardized nutrient management regulation was further influenced due to the exempting nature of both the Environmental Protection Act and the Farming and Food Production Protection Act (McRobert and Hopkins, 2004). Public concern revolved around the unjustified protectionist nature of these regulations and the need to further protect public health from what has been previously deemed as normal farm practices.
CHAPTER 4

METHODODOLOGY AND THE PNMAC CASE STUDY

4.1. Methodology

For the purpose of this research the Provincial Nutrient Management Advisory Committee (PNMAC) was utilized. The stakeholder group (i.e. Cattlemen’s Association, Ducks Unlimited, etc.) participants and members of this advisory committee were sought in furthering our understanding of the stakeholder participation and social learning processes that occur in the larger advisory committee process. This advisory committee was selected for this research due to the highly contentious context which the PNMAC operated within; that of nutrient management and source water protection. With advisory committee members belonging to stakeholder groups representing municipalities, provincial government agencies (OMAFRA and MOE), agricultural interest groups, and environmental non-governmental organization (ENGOs) there were significant and opposing perspectives and attitudes concerning effective nutrient management and environmental sustainability. It is important to note here that differing perspectives presented themselves within the stakeholder groups themselves; for example there were significant differences in perspective between the Fruit and Vegetable Growers of Ontario and the Cattlemen’s Association, as well as between OMAFRA and MOE. This high level of potential conflict and differing perspectives and attitude within the advisory committee itself was a predominant factor in selecting which advisory committee to assess for policy implementation and social benefit. If the PNMAC was perceived to be successful in improving nutrient management policy implementation, with the presence of so much conflict and competing interests, then modeling effective stakeholder participation processes after the PNMAC would prove necessary. Further details regarding the structure and responsibilities of this advisory committee will be covered later in the paper.

As mentioned above, the PNMAC consisted of members belonging to various interest groups who were deemed to have a stake in the issue of nutrient management and its regulation in Ontario. For the purpose of this research the advisory committee members were classified as belonging to: The farming community, municipalities, the Ontario provincial government, or
environmental non-government organizations (ENGOs). Eighteen PNMAC members in total were successfully interviewed for this research. The following is a breakdown of the advisory committee representation that was interviewed:

- 9 farming community representatives (agribusinesses, farm organizations, livestock industry, crop industry).
- 1 Ontario rural municipality representative.
- 6 Ontario provincial government representatives (OMAFRA and MOE).
- 2 Environmental non-government organization representatives.

Several constraints presented themselves during the interviewing and research process for this thesis project. Of the five municipal representatives involved in the advisory committee process, only one was successfully completed. A large portion of the municipal representatives were unable to be contacted. Complications in contacting larger municipal representation were attributed to several members having resigned from their previous municipal positions (e.g. mayor, reeve, etc.) as well as dated contact information. Several of these members also indicated they were farmers and were currently unable to participate in an interview due to time constraints. Larger municipal representation in this research could have better verified the perspective of Ontario’s municipalities regarding the PNMAC process. The municipal representative that was included however, did represent a rural municipality in which agriculture is a significant economic contributor. Also of significance was the inability to include members of the scientific and academic communities in the interviewing process. Multiple efforts to contact these individuals were unsuccessful. Discussions with these members could have added additional expert insight regarding the perspectives of other committee members and the learning processes involved in the PNMAC meetings.

The use of semi-structured telephone interviews were utilized in obtaining the views, perceptions, and attitudes of the various members of the advisory committee. Telephone interviews, lasting forty five minutes on average, were chosen due to the inability of a large number of stakeholders to commit to pre-scheduled, in person appointments. In carrying out the research goals of identifying the various tools for conflict resolution and social learning that took place between each of the stakeholder groups, stakeholder responded to the same set of interview questions multiple times; each time referring to a different interest group. In executing such an interview technique we were able to gather a detailed and comprehensive picture of how each
stakeholder group or committee member perceived other stakeholder groups before and after having participated in the advisory committee process for some time. Specific interview questions relating to initial and changed attitudes and perceptions as well as conflict and conflict resolution were asked to each advisory committee member in relation to the other stakeholder groups. A detailed understanding of the relationship building processes that occurred between each stakeholder group was revealed through the use of such an interview technique. The exact interview questionnaire used for this research can be found in the Appendices.

After having transcribed the stakeholder interviews, they were further analyzed from their previously semi-structured format. Interview findings were analyzed in order to reveal the various stakeholder advisory committee processes that contributed to social learning and the improvement of policy implementation. Theoretical frameworks for social learning, collaborative planning, and advisory committees provided in the literature were utilized in analyzing the appropriateness of advisory committees for stakeholder participation in the policy process.

4.2. Case Study: Provincial Nutrient Management Advisory Committee

In reaction to the numerous stakeholder concerns regarding the workableness and fairness of the regulations set forth under the Ontario provincial governments Nutrient Management Act, the provincial government, through both the Ontario Ministry of Agriculture and Rural Affairs (OMAFRA) and the Ministry of Environment (MOE) established the Provincial Nutrient Management Advisory Committee. According to OMAFRA (2012), the 24 member advisory committee was designed to “make recommendations for the implementation of regulations under the Nutrient Management Act, 2002”. In particular the advisory committee will examine and review specific technical issues concerning nutrient management on agricultural operations as well as comment on the appropriate funding and phase-in requirements necessary for the legitimacy of the regulations (OMAFRA, 2012). OMAFRA (2012) has outlined the following nutrient management issues to be examined:
• when the proposed regulations would apply to all types of farms except new livestock farms, large livestock farms and those expanding into the large livestock category
• restrictions regarding the siting and construction of nutrient storage, as well as manure handling and application near municipal wells
• seasonal outdoor feeding area standards
• manure storage issues for existing operations
• decommissioning of manure storages
• nutrient application on tile-drained land
• nutrient application on shallow soils
• odour-related setbacks and standards
• winter spreading restrictions for nutrients from the pulp and paper sector

It is important to address that the relevant stakeholder interests were strategically chosen from farm organizations, the crop industry, the livestock industry, agribusiness, rural municipalities, and the environmental community as well as from the scientific and academic community (OMAFRA, 2012). It is worth noting that a considerable portion of these individuals were involved in the development of the NMA draft regulations and legislation (OMAFRA, 2012).

4.3. Research Goal

The goal of this research is to evaluate the contribution of social learning in successfully implementing policy, as well as the ability for advisory committees to facilitate social learning.

4.4. Research Objectives

1) Assessment of the roles of learning, knowledge transfer, and communication in the management of conflict and policy implementation.

2) Identification and assessment of stakeholder advisory committee processes that lead to changed attitudes and the development of trust between stakeholder groups.

3) Identification and assessment of stakeholder advisory committee limitations in contributing to successful policy development, implementation, and social learning.
CHAPTER 5

RESULTS and DISCUSSION

5.1. Stakeholder Group Interests in Nutrient Management and the PNMAC

Due to the structure and the number of industries and sectors represented on the PNMAC, this advisory committee supported varied interests. Stakeholder interests differed primarily due to their orientation and identity. As mentioned earlier in the introduction and methods section of this research paper, committee members represented the farming community, municipalities, ENGOs, or the provincial government. With committee members representing such diverse and differently oriented industries, interests and goals regarding nutrient management regulation were expected to vary just as much. The following section illustrates the numerous stakeholder interests as identified through committee member interviews.

5.1.1. Farming Community

Interviews with the farming community committee members exposed the two primary interests or reasons for joining the PNMAC process. The majority of the farming members on the committee stated that they were present during the advisory committee process to ensure that the agriculture industry had a voice; that farmers would have their input regarding the revised NM regulations. In relation to this, Ontario’s farming community wanted to ensure that they could operate and live with the revised NMA and its regulations. This group wanted to ensure regulations were developed using research based science; the regulations needs to be justified:

“My specific interest was the same as any other farmer; to make sure the newly developed NMA would be manageable for Ontario farmers. I guess in particular I was representing the livestock industry and livestock farmers. It was our area of farming interest that we had to be sure we were aware of; aware of proper management of nutrients coming from our animals. We have to ensure that other animal farmers and the larger farming community knows how manure and other nutrients react to their land and to any water near this land.”
“I am the director of the Ontario Fruits and Vegetables Growers Association, this was the specific organization in which I was representing, and making sure we had our voice heard; specifically I was there to ensure that the newly developed nutrient regulations were not going to significantly impact fruit growers in Ontario without immediate justification. Nutrient Management legislation and the required programs that were to be spurred from it was a very new initiative. I really wanted to make it clear that the majority of us wanted the decisions made to be done so on a research basis, not just because “it’s the right thing to do”; we want scientific justification.”

“I am a sheep farmer, as well as a member of the board for the Ontario Sheep Marketing Agency. I agreed to join on the committee because the NMA could have considerable effect on the sheep industry. I was trying to make sure that the regulations, when made, the sheep industry could live with them; to make sure they were workable for the sheep industry.”

“I was the Chair of the Ontario Farm Animal Council and was serving as vice-Chair of OFEC as well. I was representing the Ontario Chicken farmers during the advisory committee meetings, as well as the larger Ontario livestock groups. Basically I was just trying to help, trying to make sure the livestock industry was properly voiced throughout all of these meetings. The NMA was an early version of turning a voluntary practice and program into regulatory compliance. Part of the whole effort was trying to make sure the regulations were practical, reasonable, affordable, and workable for all farmers. I was part of the team that represented agriculture; it was a leadership role, for me anyways. We needed to make sure the input from all farm people was forwarded.”

5.1.2. Municipalities

Due to the fact that a large number of Ontario’s municipalities are agriculturally based, municipal representation on the committee felt their involvement was essential. Previous to the provincial government’s takeover of the situation, nutrient management regulation had been left in the hands of local governments; there was a lot of information regarding nutrient management and source water protection that needed to be shared:

“I work for an agricultural county; Wellington County is largely agricultural based. Before all of this, municipal governments passed by-laws to deal with nutrient management. The provincial government stepped in to develop provincial standards in dealing with nutrients; they wanted province wide standards and regulations for managing nutrients to be in place. We as municipalities have had continual interest in nutrient management and clean, safe water.”
5.1.3. Provincial Government

Provincial agency members’ interest in nutrient management and the PNNMAC process can be summarized by their actual roles in the stakeholder participation process. The majority of the individuals working for the provincial government were interested in ensuring that all of the information and perspectives from the committee meetings were properly forwarded to those responsible for NM policy development. In general, provincial members were present for administrative purposes and to properly collect and utilize the information generated from the advisory committee process in the development of NM regulation:

“I was the project lead for the NM regulatory development. I was involved in the development of the first NM regulation 267 in 2003. I helped form the advisory committee afterwards, for revision. I was the agency liaison for OMAFRA, to ensure all information and discussions, and all of the processes involved during the NMAC meetings were forwarded back to the ministry.”

“During the time of my involvement in the PNNMAC process I was the advisor to the minister of agriculture. The whole process was extremely technical, it gave me a very clear understanding of the technical workings of nutrient management; more so than I had already known. It was my job afterwards to disseminate this information to the minister of agriculture.”

“I was responsible for developing the legislation and regulations. I was the director of the environmental policy branch and worked directly with the ministry department, as well as with MOE and MNR.”

“I provided mainly administrative and secretarial natured support. The NMA was made very quickly; so how do we craft a set of standards that are implementable?”

These comments represent the individual interest of those provincial agency members present during the PNNMAC process; the general interest of the Ontario provincial government as a cohesive unit is significantly different. As mentioned earlier in the Methods and Case Study section of this report, the provincial government developed the PNNMAC in response to stakeholder groups’ concerns over the fairness and workableness of the NMA. Provincial goals regarding nutrient management regulations revolved around the standardization of nutrient management across the province in a manner that was cost effective, enforceable, and able to significantly protect the province’s natural resources and residents. All of this of course needed
to be legitimized in having a substantial stakeholder participatory process incorporated into the end policy product.

5.1.4. ENGOs

Conversations with the ENGO members on the committee exposed two primary interests for participating in the PNMAC process. Primarily, the environmental groups were present in order to ensure that their values and interests were represented and incorporated into the newly revised NMA. With agricultural practices in Ontario occurring in close proximity to natural features (e.g. watersheds, wetlands, etc.) valued by this group it was important for them to ensure the new regulations would address these matters. The ENGOs were also proactive in ensuring that any of the stigmas associated with the Walkerton events that were being utilized during the PNMAC conversations were actually verifiable and correct:

“I started off actually as an OMAFRA employee and was actually one of the members who actually worked on the initial development of the NMA. I was readily involved because of the role wetlands play in water quality and the amount of interaction this feature plays with agriculture. I was interested in reviewing and discussing the specific features of the act that spoke to our interest and those that are connected to agriculture; predominantly those that involved agricultural practices and wetlands, how to deal with wetlands, how to manage nutrients when in close proximity to them, those kind of things.”

“My interests specifically revolved around environmental health and protection; specifically with the health of the environment I am referring to most often the phosphorous and nitrogen overloading we often see. Of course the Walkerton situation occurred, and this spurred my interest and focus even more. In sitting at the table with the other interest groups I was able to cross examine every ones’ cases, and every ones’ perspectives, I was able to work with others in a positive manner. In a lot of our discussions, the Walkerton tragedy was brought up; and a lot of the times, there was a lot of misinformation being tossed around; with my background and career expertise, I knew the Walkerton evidence inside and out. I was making sure accurate information was put out; making sure they had the right info.”
5.2. Conflict and Communication

5.2.1 Conflict

Concerning ourselves with the structure, organization, and makeup of the Provincial Nutrient Management Advisory Committee process, the presence of conflict resulting from differences of interests, perspectives, and core values is not surprising. The PNMAC consisting of representatives of Ontario’s farming community, municipalities, environmental non-government organizations, as well as members from the scientific and academic community was responsible for advising representatives of the Ontario provincial government on necessary revisions to Nutrient Management in Ontario. Present at all of the PNMAC meetings were the members of the advisory committee representing the various stakeholder groups listed above as well as members of the Ontario provincial government representing OMAFRA and the MOE. Conflicts are bound to arise when you have the regulator (e.g. Ontario provincial government) and the regulated (e.g. livestock farmers, agribusiness, environmentalists, etc.) working together, communicating concerns and ideas, and drawing out conclusions and recommendations; this is inevitable. Conflicts during the PNMAC process were present between all stakeholder groups as well as between stakeholder groups and the provincial government. Existing conflicts varied in nature depending on the stakeholder interest group involved; these conflicts are detailed in the section below.

5.2.1.1 Farming Community

Conflict with Municipalities:

Key informant interviews with the farming community committee members revealed a significant source of contention between the farming community and Ontario’s municipalities; that of by-law uniformity. The problem, as stated by several farm organization representatives, was the fact that each and every municipality had their own unique regulatory and by-law framework in place for addressing nutrient management on their own land. Having no provincially wide and uniform standard for nutrient management practices across Ontario
requires the farming community to deal with and address every municipality individually in order to ensure they are in compliance. This is of significant concern when considering that the farming community often farms across fragmented land parcels across several municipalities (e.g. Bruce County, Grey County, Huron County, etc.). One farming member notes the improvement of this situation through the advisory committee process:

“The province took over, and took over the process of any nutrient management issues and matters in the municipalities; legislation was made uniform rather than a messy web of separate and individual bylaws and requirements.”

In addition to the complexities of having every local government develop and enforce their own “messy web” of nutrient management by-laws and requirements, municipal nutrient management by-laws were often in conflict with the provincial nutrient management legislation. This leaves farmers with the question as to which regulatory framework they should comply with.

The hardship of dealing with fractured and non-uniform municipal nutrient management by-laws directed towards the farming community is compounded when considering the numerous other farming (e.g. application of manure, etc.) and non-farming by-laws (e.g. tree removal, etc.) regulating farming operations and land-owners in general. These hardships are forwarded here by one of the farming community representatives:

“In Ottawa if a tree falls on a fence, you have to get a permit to remove and cut up the tree to remove it. Then you have to get a permit to fix your fence. You have to do all of this all while trying to keep livestock from getting out onto the road. And I’ll tell you if livestock gets out on the road, you’re screwed. This is ridiculous. Some municipalities have way too many bylaws. It becomes very hard to work with and to comply; you can’t get anything done. It has become so unrealistic; permit this, permit that. It is impossible for any stakeholder to move forward with this, this is why we needed a standard in place, but this is also why we need consensus among stakeholders; everyone needs a voice.”

Conflict with the Provincial Government:

Throughout this particular advisory committee process, the Ontario farming community had three substantial areas of contention regarding the Ontario provincial government and the OMAFRA and MOE agencies involved. The primary and most exigent issue brought forth from
the farming community was the issue of funding and cost of nutrient management regulation compliance directed towards farmers.

Significant concern was forwarded by the farming community regarding the financial and economic repercussions the newly developed nutrient management regulations would have towards Ontario’s producers. The newly developed nutrient management regulations would require significant retrofitting of both physical farm structures (e.g. manure storage tanks, etc.) as well as farming practices (e.g. manure application distances from municipal well heads, etc.). These retrofits, required in order to be in compliance with nutrient management regulations in Ontario, would incur significant costs towards farmers. During the PNMAC process, the farming community expressed the need for financial compensation or funding in order to meet these requirements. This was the most significant area of conflict between the farming community and the provincial government. The farming community formed two significant arguments favouring the development of a cost-share program or other funding initiatives for the required retrofitting. The first argument forwarded by the farming community revolves around the idea that the issue of nutrient management is a socially based issue; the farmer themselves are not the ones necessarily benefiting from nutrient management regulation compliance. The question of who actually benefits from effective nutrient management in Ontario spurs the question of who then should be responsible for covering the costs associated with compliance. The following is what the farming community members said regarding the need for funding and who should be responsible for providing financial assistance:

“[The provincial government] sometimes pushed for tighter regulations than farmers could afford. Here is what happened all too often; the government would come up with an idea, we all say great idea, but who is going to pay for it, who is going to fund the required changes to our operations, to our practices? A lot of the time, the government members would say there was available funding, that a program would be made, but never in the meetings was a real agreement or a written thing for funding ever made or approved. The government would not think of any of the regulatory impacts. It’s all about the costs, costs, costs, how much will it cost. The members were most likely told not to commit to funding; but we are always pushing for funding.”

“Regs have to make economic sense. If the Ag industry is to be forced to follow newly developed regulations, we need money on the table to fund our changing practices. We need ongoing financial support; this is where we always clashed, with every group, such an important and lasting issue during the committee meetings.”
“The only conflict would be establishing what will be effective for the least cost. How much money is available for us to comply? Science research says this is a problem, what is the solution, if it’s an expensive solution, how much help can we get. Farmers always bear the brunt of it all, of all the compliance.”

These statements directed towards the Ontario provincial government from the farming community illustrate the level of contention which the issue of retrofit and compliance funding has brought forth to the advisory committee process. Having the farmer take the brunt of the financial burden associated with compliance without necessarily enjoying the fruits of labour asks the question as to who should be responsible for the financial requirements. In carrying out the key informant interviews with the farming community the farmer community’s perspective on their level of environmental stewardship was revealed. Numerous farming advisory committee members argued that they were among the most environmentally responsible individuals around. They argued that what they do on their land directly affects the health of their family, their children. It was noted several times how as a producer, land owner and steward, farmers need to actively and consciously protect their source water from contamination as they themselves and their family consumes this water.

Another argument regarding the issue of funding forwarded by the farming community revolves around the undue consequences the newly developed nutrient management regulations could have on the future of the farming family. It was mentioned numerous times throughout the PNMAC process how retrofits and changes in farming practices could ultimately force some farms out of business and greatly deter future or step-down generations from taking over the family farm or business. The following statement was made by a farming community member on the PNMAC:

“Using the example of the beef industry, we have a lot of farmers out there who are ageing and are of older age; the average age is quite high. With a lot of the following generation not wanting to take over the farm in the first place, and a lot of the would haves not wanting to have to invest so much money in their new business or handed down operation, they too will drop out. Older people didn’t want to invest in this at their age; invest to comply so late in age didn’t really make sense.”

Aside from the conflicts stemming from funding or financial concerns of regulation compliance, the other most commonly mentioned area of contention directed towards the provincial government from the farming community was the way the provincial government
addressed the advice, concerns, and suggestions put forth by the farming stakeholders. The farming community was adamant in forwarding their concern towards how legitimate or fair the PNMAC process turned out to be. Several farming members voiced their concern over how the entire process turned out to be simply a political battle between the regulator and the regulated. This is of significant concern when decisions that affect the quality of our environment and natural resources (e.g. source water) are weighted towards or from political factors and not science-based information and research. Noted in the literature review section of this research paper, Arnstein (1969) referred to the tokenism level of stakeholder participation. From various farming community members’ initial perspectives it could be argued that this advisory committee process lead by the provincial government was taking the form of simple consultation. This differs from what effective advisory committees can be classified as; that of placation. It was discovered from several interviews with farming members of the committee how they perceived the provincial government agencies in the process as untrustworthy and driven by their own predetermined agenda. From the perspective of the committee’s farming members, the provincial government was using the PNMAC process to simply provide the facade of legitimate and required public participation. The following two statements forwarded by farming members of the PNMAC illustrate this area of contention between the two stakeholder groups:

“Part way through I told them we were not getting anywhere with this; after 3 years of meetings, any decisions the committee was able to come up with, the government just changed it to suit their interests. This went back and forth a lot of times. The government had a lot of good resourceful people; they did not utilize them though. They had their own agenda, pick and choose, they were not very collaborative or fair I don’t believe. At the start the committee came up with reasonable ideas, the province just pushed back. Even when they agreed with us at the committee meetings, sometimes it felt like their reps did not have a lot of backbone, no support. All was good with them accepting our recommendations until they brought it out of the meetings and to the minister or officials. Charles LaLonde; a straight and narrow guy with real good working relation and intentions, he accepted and agreed with decisions, then he got his buttons pushed by OMAFRA. OMAFRA was heavily influenced and driven by the MOE, so essentially, MOE had a lot of push and power at this time; they were not inclusive at all.”

“If it is supposed to be a science based entity, why are we not working towards making science based conclusions. It always turns out to be a political decision in the end. We still haven’t had any comments or feedbacks from the government regarding our recommendations.”
Conflict with ENGOs:

The majority of the conflict the farming PNMAC members expressed regarding the ENGOs revolved around general misunderstanding or unfamiliarity with farming practices in Ontario as well as their flexibleness. The farming community expressed concern over the general rule which the majority of the ENGOs seemed to follow, that of the precautionary principle. Bodansky (1991) notes how “[r]ecently, a variety of states and environmentalists have advocated adoption of a "precautionary principle" to deal with the problem of scientific uncertainty. In essence, this principle says that, rather than await certainty, regulators should act in anticipation of environmental harm to ensure that this harm does not occur, or, as the old adage goes, "An ounce of prevention is worth a pound of cure." (p. 4).

It was noted several times how the general source of contention directed towards the ENGOs from the farming community was the general lack of understanding of the agriculture industry this stakeholder group had. According to some farming members on the committee, ENGO members would aggressively forward ideas or changes in practice that need to be done in order to sufficiently protect the natural environment without considering the economic or financial impact these changes would have on farmers and farming businesses.

Financial impacts in the case of nutrient management on farms would generally present themselves in two fashions. Increased costs could be associated with retrofitting farm operations or practices themselves (e.g. retrofitted liquid manure storage tanks, etc.) or could be associated with a decrease in land or farm productivity. For example, normal farm practices in Ontario entail the spreading of manure on agricultural lands for the purpose of nutrient replacement in soils and crop productivity; the spreading of manure occasionally occurs near well heads where municipal water or source water is located. Currently the O. Reg 267/03 under the Ontario Nutrient Management Act no individual can apply manure closer than 100 metres from a municipal well (e-laws, 2012). With this restriction in place, roughly 7 ¾ acres around municipal wells are impacted with respect to their productivity resulting from potential nutrient deficiencies. During the PNMAC process, the ENGOs had brought forth arguments to further increase this minimum distance setback from municipal wells arguing that there was still a potential threat of introducing pathogens or other contaminants into the source water. Using this scenario of manure application around municipal wells as an example, the farming community
expressed how ignorant the ENGO stakeholders were of the financial impact this change would have on farming individuals.

The interviews with the farming representatives on the committee showed that the farming community perceived themselves, as well aware and educated on the potential threats which agricultural activities pose towards environmental quality and sustainability. The area of contention between farmers and environmentalists was not that of whether or not environmental threats are present in the agriculture industry, but of what level of threat is acceptable and able to be mitigated through a multi-barrier approach. All too often the ENGO representatives on the committee showed no flexibility or compassion towards the necessity of agricultural production for society, the province, or the individual farming family. Adding to the frustration of the farming community was the ENGOs drive to further increase the strictness of the regulation already in place, even with the majority of farming individuals legally complying with agricultural and environmental regulations in place. The following statements forwarded by the farming community members capture the context and level of contention with the environmental stakeholders:

“They [ENGOs] always wanted to regulate more. They always wanted more strict regs; they always went by the precautionary principle. If there was a chance for harm to be done to the environment, or if there was any risk at all, they wanted to regulate it. This always ended up in a difficult situation; this was always the source of our conflict. They want to over regulate us.”

“Environmental groups viewed any pollution or any risk as completely unacceptable whereas from farming and from producing crops, we can only do so much to ensure no environmental damage happens. Depth to bedrock on your barnyard; this was brought up numerous times, what about in the areas where I and so many others farms, were buildings have already been placed prior to the NM, what are we supposed to do. Shallow soil on bedrock barnyards, ENGOs say there should not be a barn there, there is no excuse for a barn being there; what are we supposed to do, where are we supposed to go, out of business? A huge amount of money is required for these changes, for these retrofits, lagoons, storage. Fencing livestock out of waterways, this costs money, I had to do this, from an unrelated DFO matter, but it costs a lot of money, who is going to pay for these retrofits, who is going to help us fund all these changes, all of these requirements; but from ENGOs point of view this is what was required. There are several head butting issues with this one; livestock access to water. Several people from the DFO have a zero tolerance idea for livestock access to water, I think this is unrealistic, no foot in any water where fish might be.
“This notion of just stopping an activity, of just halting agriculture, of no flexibility or concern with what has been done in the past is unreasonable and unrealistic. They would never meet in the middle, they wouldn’t go part way. It didn’t matter to them if farming operations were functioning to standard; if there was a risk it was unacceptable; they were so rigid with their views and expectations. This is not acceptable to me.”

As mentioned above, there was significant concern forwarded by the farming community about the level of understanding and knowledge the ENGO committee members had regarding agricultural production in Ontario. From the farmers’ perspectives, this shortcoming of agricultural production knowledge from the ENGO stakeholder groups directly influenced their inability to foresee the financial burden which even more strict nutrient management regulations would have on the farming community.

“They had difficulty grasping what farming is about and what these changes to practice and regulation would entail; what the cost factor was. This was a BIG issue.”

“A lot of them have no real idea of what it is like to farm in eastern Ontario; no shallow soil knowledge; how to manage soil to make it work for you. It’s special, very unique, and does have its challenges to farm. Nobody thought about the reconstruction of our barns, a lot of the old barns have concrete on top of pretty much bed rock, that’s it. If we had to follow regulation, of having a minimum amount of soil above the bedrock, I wouldn’t be able to get into the barn, wouldn’t be able to use the door.”

“Specifically, sometimes it became a problem of not understanding the environment of a farm, what was possible, what is workable, what practices are done, and what has to be done to stay in business, what changes can be made without being unduly onerous on the farmer.”

A last an overarching area of conflict which needs to be addressed is the notion of differing stakeholder goals in the realm of nutrient management, source water protection, and the PNMAC process in general. Having differing and often conflicting stakeholder goals is an unavoidable issue in inclusive stakeholder participation processes (e.g. advisory committees, etc.). The various goals of stakeholders need to however be addressed clearly and effectively in order to enhance the successfulness of any participatory process. Concerning ourselves with the conflicts the farming community had with the environmental committee members, there is no exception to the rule; these two stakeholder groups had extremely dissimilar goals with respect to
nutrient management. One farming committee was adamant in saying that “[m]ost of the problems we had with these guys stemmed from the completely differing goals which we had”.

5.2.1.2. Municipalities

Conducting key informant interviews with the municipal representatives on the PNMAC revealed very little conflict directed towards the other stakeholder interest groups (i.e. the farming community, the ENGOs, and the provincial government).

Conflict with the Farming Community:

Regarding Ontario municipalities’ relationship with its farming community members, the municipal representatives indicated little conflict; this is evident from the following comment offered by a municipal representative on the PNMAC:

“There was no significant conflict. We have a strong history of working together, working with the farm community in developing bylaws. We had a strong understanding with farmers with respect to what should happen with the development of nutrient management regulations and how they should be changed.”

Conflict with the Provincial Government:

The presence of conflict between municipalities and the provincial government as perceived by the PNMAC municipal representatives was also extremely limited. The only issue revealed by the municipal representatives was their disappointment in having spent so much energy and resources in coming up with appropriate nutrient management by-laws all for nothing; newly developed nutrient management legislation was created largely to standardize regulations across the province. The standardization of nutrient management regulations across the province largely made lower tiered government nutrient management by-laws redundant. Although this issue was brought forth, it should also be noted here that the municipalities did express their understanding for the necessity of the regulation standardization.
Conflict with ENGOs:

Conversations with the municipal representatives on the committee indicated that this stakeholder group in general did not have too much interaction with the environmental or ENGO stakeholder groups during or outside of the advisory committee process. Due to the minimal contact these two stakeholder groups had it is impossible to infer an absence of conflict, it can be suggested however that the municipal representatives could have not significantly contented against any positions the ENGOs had on nutrient management issues brought for in discussion.

5.2.1.3. Provincial Government

Conflict with the Farming Community:

Key informant interviews with committee members representing both provincial government agencies, OMAFRA and the MOE, revealed similar areas of conflict which the Ontario provincial government directed towards Ontario’s farming community. The contentious issue of funding and cost-share program development for regulatory compliance of nutrient management in Ontario as noted earlier from the perspective of the farming community is also the root of conflict from the provincial government’s perspective. Conversations with members of the provincial government present at the PNMAC meetings revealed the ongoing contention with the farming community regarding who exactly is responsible for funding the necessary farm operation retrofits necessary for nutrient management regulatory compliance. A member of the provincial government made the following statement regarding the discussions regarding funding which occurred during the PNMAC process:

“It always came down to the fiscal part of things, the financing, the funding, this was the biggest issue, this was the biggest concern, and it was always about money. Our interest was to protect the environment and ensure Walkerton didn’t happen again; they didn’t want Walkerton to happen again either, but the conflict was always we don’t have the money to do that; we can’t afford to change this. It was always predicated on financing; “we can’t afford to do that”.

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Aside from the issue of funding responsibilities as a source of conflict, provincial government members, especially those representing MOE, forwarded their concerns over the farming community’s own perspective of themselves as good land stewards. Provincial government members do realize that a large portion of the farming community is very environmentally conscious of their agricultural operations and practices. Members of the MOE cautioned however, that they feel that the level of quality of land stewardship the farming community felt they were obtaining was not nearly as high as their own self-perspective. They also forwarded the notion that even if a large portion of Ontario’s farming community are very good land stewards and already practice the regulations set forth by the Nutrient Management Act, Ontario’s public requires all farms to be in compliance. The following statements were offered by members of the provincial government present at the PNMAC meetings:

“There were numerous things the farmers did not feel they needed to be regulated on; they said they were already doing these things, but they were not. The regulation was made in order to especially address those high risk factors, those high risk scenarios, a lot of the farmers did already practice good stewardship, but the government needs everyone to comply, not just a percentage.”

“I don’t recall any specific times that conflicts existed between the MOE and them. Consensus building, I worked on consensus building mostly in the background. Here’s what MOE thinks the standards should be, and they were fairly restrictive standards, but we had good reasoning and science to justify them. As a policy rep, I was trying to ensure we were meeting objectives all whilst having each voice of each group member of each group heard and represented.”

In general, conversations with provincial government members present during the PNMAC process revealed a difference in perception regarding the level of care which Ontario’s farming community takes in upholding the quality and safety of their surrounding natural environment. Ontario’s farming community feels they are already performing the necessary action outlined by good nutrient management strategies and do not feel they need to be even further regulated. Members of the provincial government however, especially those from the MOE, are concerned with the level of compliance regarding those high risk factor or on farm scenarios which they feel are not being substantially addressed or mitigated by the farming community.
Conflict with Municipalities:

Similar to the other stakeholder groups mentioned earlier, the provincial government had very few issues with Ontario’s municipalities regarding nutrient management. Interviews with the provincial government agencies present during the PNMAC process revealed only two interconnected areas of contention. Essentially the provincial government expressed some hardship in convincing several municipalities of the need for standardized regulation for nutrient management; this hardship of course was rooted in the municipalities’ sense of a loss of authority in this case. Similarly as mentioned earlier in this section of the report, nutrient management by-laws developed and put in place by Ontario’s municipalities were viewed by the provincial government as inconsistent on their effectiveness, both in their ability to properly deal with the negative impacts of nutrients as well as their workability for both the regulator and the regulated. The following statement concerning the state of municipal based nutrient management regulation was offered by a member of the provincial government:

“I know some had NM plans in play, some were real good, some were not up to par, and everything in the middle. I don’t really remember much for what they did, and I didn’t have very much contact with them, but I know there was a demand and a need to have a standardized regulation for NM; local governments had an entangled web of by-laws varying all over the place.

“Fragmented regulations; we had 113 different interim bylaws applied across Southern Ontario. These were not science based, and more so based on emotion and pressure from residents. These fragmented regulations were breaking up the province with regards to NM regulations and rules; farmers often own land in two different townships and counties; it is hard for these producers to expand were it makes sense and to farm two areas in different ways because of the inconsistencies. Municipal reps wanted to see as many houses across or along municipal roads, but this conflicted with agriculture, with noise and with odors. A lot of the guys present were from really rural municipalities; but they had a real hate for pigs; I think the swine industry stressed the hell out of the guys. AMO [Association of Municipalities Ontario] and ROMA [Rural Ontario Municipal Association], real good at this level for engaging dialogue, they were not adversarial however; they never said “where is the solution”.

Conflict arose as the provincial government members present during the advisory committee process stressed the requirement for the standardization of nutrient management regulation in Ontario. Standardized nutrient management regulation across Ontario would put
provincial agencies, in this case MOE, in control of enforcing regulations and developing nutrient management legislation. At this point, municipalities expressed concern over their loss of authority in dealing with nutrient management issues on their own land. An OMAFRA member notes that “[c]onflict was all due to a sense of loss of authority. The conflict was that municipalities didn’t want to be seen as losing authority” (CL). Several municipalities felt that all of their time, effort, and resources in developing their unique nutrient management strategies and by-laws were being flushed away with the introduction of a standardized nutrient management regime.

Although these conflicts directed towards Ontario’s municipalities from the provincial government should not be taken lightly, they were significantly easier to mitigate with effective communication than the other conflicts between stakeholders noted earlier in this section. In interviewing members of OMAFRA and MOE, a sense of understanding between these two stakeholders was illustrated. An OMAFRA representative stated how important it was to clearly show municipal governments where the provincial government needed to step in, where the provincial agencies needed to develop further barriers to protect the public as well as the environment. This was the case in standardizing minimum set back distances for manure applications around municipal wells. Provincial government members stressed the importance of developing effective multi-barrier approaches in ensuring that the Walkerton tragedy never repeats itself; multi-barrier approaches that are represented in provincial legislation and enforceable province wide.

Conflict with ENGOs:

Provincial government conflict with the environmental non-government organizations existed essentially only between the OMAFRA government agency and the ENGOs; this was not the case between the MOE and the ENGOs. Disagreement between OMAFRA and ENGOs largely occurred due to their differing views on what agricultural in Ontario should look like and entail. In general these two interest groups varied significantly with regards to their orientation towards the agriculture industry and the natural environment. It was noted by several OMAFRA members how the environmental groups’ view of agriculture was significantly outdated. An OMAFRA representative offered the following comment:
“Their vision of farming was a 1932 tractor going down the laneway to a small farm, a family farm. We wanted to show that commercial agriculture could be viable in Ontario. They wanted agriculture to stay family size and local; they wanted all of the soft qualities of agriculture.”

It is clear here how the definition and depiction of agriculture varies between OMAFRA as a provincial government agency and that of the non-government environmental groups present during the process. Conflict directed towards the ENGOs from OMAFRA is rooted in the views of what is necessary productive and viable agriculture to occur in Ontario. From the perspective of OMAFRA, industrial and contemporary agriculture can exist sustainably in Ontario. OMAFRA has argued that with proper regulations in place and the adoption of multi-barrier approaches to environmental protection, both profitable large-scale, commercial agriculture and environmental sustainability can be obtainable. OMAFRA representatives had made efforts to clarify that every farm operations, regardless of type (e.g. dairy, hog, cash crop, etc.) or size (e.g. 300 acre family farm, 3000 acre industrial operation, etc.) has to be viewed individually in assessing potential for environmental impacts. Smaller sized farms with insufficient or dated manure storage facilities may pose significant more risk than a large, technologically advanced, intensive livestock operation where few traces of manure or nutrients leave the land or operation without someone knowing about it.

Differing from the contention which OMAFRA expressed towards the ENGOs, the other provincial agency present during the PNMAC process, the MOE, had significantly less if any conflict with the environmentalists. Several MOE representatives discussed how this agency and the environmental groups present were similarly oriented with respect to their nature and goals regarding nutrient management and agriculture in Ontario. Regarding conflict between MOE and the ENGOs a member of the provincial government stated that the ENGOs were “...more in line with what the government wanted to do so their views and goals didn’t really spur any conflicts with us. They are more enforcement oriented, similar to the government”.
5.2.1.4. ENGOs

Conflict with the Farming Community:

Interviews with ENGO members regarding conflict directed towards Ontario’s farming community really only tended to focus on the issue of undue or irrational hostility from farming members. ENGO committee members expressed their concern regarding the attitude and perception the farming community had about Ontario’s environmental groups. An ENGO committee member offered the following statement regarding the undue perception the agricultural community had towards ENGOs:

“The only real conflict which meant anything to me was probably the agriculture community perceiving that all we wanted to do was protect wetlands at all costs; that we didn’t care about their industry. We are both at the table descending our interests. It probably works the same way with how our environmental organizations view the farming groups, that losing wetlands wasn’t an issue to care about for the farmers.”

It is of interest here to note how the environmental groups present during the PNMAC process realized their own faults in how their attitudes towards commercial agriculture in Ontario may be perceived by the farming community. This misunderstanding of each stakeholder group’s perceived attitude towards one another is one area of contention which can be significantly improved and resolved through effective communication and dialogue. The role of communication and dialogue in the process of conflict resolution will be discussed in the following section.

It was revealed through the key informant interviews that a large portion of this mutual undue hostility and negative perception regarding each stakeholder group could be attributed to the events of the Walkerton tragedy. Lack of communication between these two stakeholders during the dealings of the Walkerton tragedy could be seen as a large contributor to the distrust and negative perception the agriculture industry had for Ontario’s ENGOs. There was a significant difference in the way the ENGOs perceived the Walkerton tragedy compared to how the farming community thought the ENGOs perceived the situation:
“At the beginning, at every meeting, they were very stressful; there was a lot of hostility, resentment, and worry about us. I feel there were a lot of negative perspectives towards us, the media, and the public for blaming agriculture for the Walkerton tragedy. It was a much more institutional problem; you can’t blame something like Walkerton on a single industry, on one source”.

It is evident from comments forwarded by Ontario’s environmental organizations that a lot of undue hostility had been directed towards them from the farming community. Discussions with ENGO committee members showed a significant level of understanding regarding who was responsible for the Walkerton tragedy. Ontario’s ENGOs were well aware that no single industry was complete fault for the instance, that there is no single source of blame. They forwarded concerns over the necessity for well developed multi-barrier approaches for effective source water protection. This approach to ensuring such a tragedy does not repeat itself requires all stakeholders and industries to adopt best management practices and to fully comply with well developed regulations.

Conflict with Municipalities:

Discussions with ENGO committee members exposed very little conflict directed towards Ontario’s municipalities. There was some contention regarding the level of involvement municipalities had in protecting wetlands and other natural heritage features which ENGOs value. Conflict in this case however was slightly mitigated in the ENGOs’ understanding of the burden placed on municipalities in dealing with landowner and wetland interactions prior to standardized nutrient management regulation (e.g. livestock access to water):

“Wetlands and other features that we are interested in conserving really do put stress on municipalities and landowners; under regulation they have to stay away from these features.”

As mentioned above there was some discussion regarding the subpar level of involvement and effort municipalities have had in protecting certain natural features (e.g. wetlands), however, ENGOs in general have forwarded their satisfaction with this stakeholder group:
“I don’t think any conflicts really existed between us. They were already performing what I was usually agreeing with and promoting. They were mostly worried about resourcing. AWWA (American Water Works Association) interests were highly aligned. The multi-barrier approach was prominent; we strongly advocated this approach for drinking water quality; they all agreed with this.”

Comparable with the interactions which other stakeholder groups had with municipalities during the advisory committee process, ENGO representatives expressed the somewhat lack of involvement or presence which municipalities had during the meetings.

*Conflict with the Provincial Government:*

Conversations with ENGO committee members showed very few highly contentious areas of conflict directed towards the provincial government. Sources of conflict predominantly revolved around the application of manure and nutrients in close proximity to wetlands and other waterways. ENGOs often questioned the science and research which was utilized by policy developers in establishing such regulatory requirements as minimum setback distances from these natural features for manure application. It should also be noted here that some disagreement between these two stakeholders did exist in the actual definition of certain natural features:

“The only time conflicts really existed was around definitions of wetlands, and of the other features. There was conflict around the reality and the science around the actual measurements for setback distances and the use of buffer strips from wetlands. Most of the technical information and research we were handed was coming from OMAFRA. These guys worked a lot of the times on side with the Ag industry.”

Consistent with the discussions with OMAFRA and MOE provincial representatives outlined earlier in this section, the few conflicts that were directed towards the provincial government were more heavily weighted towards OMAFRA as a provincial agency. The goals, values, and agenda of MOE, being more consistent with those of the ENGOs resulted in few disagreements between this agency and the environmental groups.

Discussions with the members of the PNMAC representing the various stakeholder interest groups as well as individuals representing both provincial agencies revealed a significant
trend for conflict to exist between the farming community and the other stakeholder groups. Although significant and important areas of contention were apparent between the other interest groups (e.g. between ENGOs and the provincial government), conflict between the farming community and the environmental groups as well as the MOE seemed to dominate the majority of the advisory committee process. When we take into account the goals and values of these 3 interest groups when concerning ourselves with nutrient management and environmental sustainability it is far from surprising.

5.2.2. Effective Communication and Dialogue in Conflict Management

Earlier in this paper the importance of effective dialogue and meaningful communication in decision making and conflict resolution was discussed. In particular, Hillier’s (1995) notion of reflexive exchange in the communication process was brought forth; the idea that for positive and effective communication to occur stakeholders need to be open with each other and be willing to listen and take the claims of other seriously and passionately. It is possible for effective and meaningful communication to occur and thrive amongst individuals who belong to stakeholder groups with traditionally conflicting interests and beliefs. The following section details the role communication during the PNMAC process aided in the resolution of conflict and the development of trust and understanding amongst the various interest groups involved.

5.2.2.1. Farming Community Perspective

Interviews with the farming community committee members revealed, in general, three significant roles of communication in the advisory committee and decision making process. The agriculture industry, arguably the most affected by nutrient management policy, expressed the importance communication during the advisory committee had for ensuring decisions made were reasonable and workable for the industry. It was noted numerous times how effective communication in this sense allowed for farming community members to effectively argue a point from a unified stance:
“The work that was done by the Ag groups and the meetings to educate each other was great. Through the NMAC meetings we made sure that farmers had a common voice, a common position; this was the case between us and the other groups as well, for making sure the policy worked properly. We are credible and responsible; we established this with the government. The NMAC helped us to avoid going in all different positions and paths. OFEC was a crucial and effective player in all of this; definitely made sure we held ourselves together, they gave us a lot of information, and helped us understand the environmental concerns of the other groups, not just our own.”

Collectively organizing arguments stitched together from various corners of an industry and clearly communicating these arguments, perspectives, and information is colossally important when attempting to influence a decision making process. The ability of the farming community to do so when interacting with other stakeholder interest groups and the provincial government is depicted here:

“The Ag community came into the scenario, the advisory committee, with a unified voice. Behind closed doors during the NMAC, we were all singing from the same song book; the provincial government could not divide and conquer us, especially in such a progressive and reciprocal forum such as the NMAC meetings. We had very good staff people; well versed with water and nutrient topics and information. The key people, the experts, we used the knowledge and advise from these people to the max. We had research, we had qualification, we had arguments that were science and research based and therefore extremely difficult to refute. To sum it all up, the Ag community was really just trying to connect political agendas and interests with the scientific background it needed to be legitimate.”

The second role of communication from the farming community’s perspective is that of the development of reciprocal understanding and respect between conflicting interest groups. Members of the farming community present during the committee meetings expressed the notion that although their industry may not agree with the goals of another industry, and perhaps never will, communication can aid in at least starting to understand their motives and start to respect their interests more. The following statement was made from a farming committee member regarding communication with ENGOs:

“...they represented public interest, they often took extreme stances, and often did not forward realistic or economically achievable goals; this frustrated the Ag community quite a bit, however through more and more conversations with these groups, I can’t say we agreed with them on their goals, but we started to understand their motives, their
interests, and their background in challenging an industry to evolve in an environmentally beneficial manner.”

The farming community also exposed the ability for forums such as advisory committee meeting to simply enable individuals, industries, and stakeholder groups alike to get to know each other better. The more comfortable and familiar individuals are with each other the more natural and authentic the dialogue:

“Once you got to know people and so long as they came across as honest, they represented their actual feelings, their actual stance; then you tend to develop better dialogue and respect their positions, views and interests quite a bit more.”

Meaningful and authentic dialogue can go a long way in the development of understanding between interest groups; from here contentious issues in nutrient management revision can be mitigated more effectively. A farming committee member offered the following statement concerning the role of communication with an often conflicting interest group, the provincial government:

“If you don’t communicate, you will not resolve the fundamental problems, the fundamental issues, the most important issues. We would try to hammer out a compromise that would satisfy all of us. You have to sit down and talk about it, especially when you are dealing with the government. Placard waving and name calling does not get anything resolved; besides, the government has the big stick in this one. It’s better to talk with them, the more you can talk and communicate the more chance you have to create a workable and affordable solution.”

Thirdly, interviews with the farming community revealed the importance of communication for filling in the knowledge gaps relating to both nutrient management and other interest groups themselves. Meaningful dialogue and effective communication during the PNMAC meetings helped to reduce the tendency for undue and negative judgement to exist between stakeholder groups:
“I think it made a big difference in the bylaws in some local governments. Communication definitely put fears to rest of the urban MOE workers...It is important to spread the knowledge, fill in the knowledge gaps. We saw this same process with OFEC (Ontario Farm Environment Coalition), through Ontario Pork, through Cattlemen, all through their risk management programs; communication was key.”

When you have various representations from differing industries involved in a decision making process effective communication plays an important role in ensuring that all angles of an issue are addressed. This is important when realizing that it is highly unlikely for one industry alone to have an exhaustive understanding of nutrient management. As mentioned earlier in this research paper there are numerous types of knowledge. For example it is quite possible that the ENGOs and the MOE have a higher level of scientific understanding of the way nutrients interact with the environment than Ontario’s farming community. Ontario’s farming community however has significantly more developed practical understanding of nutrient and manure management on the ground level; how nutrient management regulation works in the field and on the farm.

5.2.2.2. Municipality Perspective

Municipal representatives on the committee acknowledged the ability for communication during the committee meetings to foster the development of understanding between all stakeholder groups. Aside from the literal increases in understanding or knowledge about nutrients in the environment and nutrient management, stakeholders, through effective communication were able to actually understand the perspective of other interest groups.

“The process of just talking with a wide group of people with a wide range of interests, people begun to get a better of understanding of why we all had legitimate concerns. You start to reveal the pressure points between us, where they were. This part went reasonably well.”

As mentioned earlier in this section it is not always possible to resolve conflict between individual stakeholders or interest groups. Due to the orientation and goals of individual members or groups, the existence of conflict is unavoidable. Communication however is a key factor in ensuring that stakeholders better understand why other stakeholder groups have their
own and differing interests, views, and concerns regarding nutrient management, as well as why their perspective is just as legitimate as their own. Effective communication in this case may not completely solve a dispute or disagreement regarding policy decision making, however it can aid in achieving a compromise in which each stakeholder group can live with.

5.2.2.3. Provincial Government Perspective

Provincial Government members forwarded the importance of the communication from individual committee members themselves. Several provincial agency members, from OMAFRA and MOE, applauded the individual efforts of various stakeholder group individuals for keeping their organizations or interest groups in check and rational. Although members representing both provincial agencies did acknowledge the general benefits of the effective communication that did go on in the committee meeting they applauded the ability for a few members representing the various industries to keep their groups on track and receptive of other interest groups’ views and opinions:

“The advantage, the biggest one, was the individual group members for conflict resolution. One guy out of the farmers group was able to really understand the environmentalists’ perspective and was able to settle the rest of the group, the farming group, down. This was evident from the ENGOs as well, certain individuals, certain key people have a lot of influence, a lot only to do with how they address themselves and the room when they talk. It has a lot to do with the individuals.”

Provincial government representatives present during the advisory committee process also attributed a large portion of the successful moderation of the process to effective communication. Concerning ourselves with nutrient management regulation in Ontario, OMAFRA was largely responsible for the technical and scientific requirements that were necessary in the development and revision of nutrient management policy. It was noted how effectively communicating this scientific information or knowledge helped settle disputes and misunderstandings between competing interest groups in the advisory committee process:
“There was no outright conflict. The two directors for OMAFRA did a great job in mitigating the subtle conflicts that did arise. There was no broad conflict. OMAFRA helped get ENGOs to understand farmers and vice versa. In the case of dispute, OMAFRA helped sort it out and straighten up with technical info. The farm guys don’t have the technical expertise; farm associations don’t have it. They [farming community] advocate for farmers and for the fact they have environmental sense but they certainly don’t have much of an environmental sense. There was this real vacuum which OMAFRA and farmers worked in, separately. You had OMAFRA staff and directors as well as MOE staff, the whole crew, who helped moderate; there were also key players from both the farming groups and the ENGOs that helped moderate and keep their own guys in line and on track.”

As stated in the comment made above, it is important to realize that the stakeholder groups involved in this advisory committee process tended to operate individually and without much previous or outside contact or interaction with one another. With the tendency for some of these interest groups to almost operate in a vacuum there is often little opportunity for interest groups to develop an accurate sense of what other interest groups are all about or where there actual interests lie. Formal and informal forums for communication, both of which existed during the PNMAC process, significantly aid in the development of understanding between stakeholder interest groups.

5.2.2.4. ENGOs Perspective

The ENGO committee members were adamant in arguing for effective communication’s ability to contribute to social opportunities. In public participation processes such as the PNMAC and most likely other advisory committee process, the ability to not only communicate formally, but informally, fosters relationship building which naturally reduces previously disposed negative attitudes between differing interest groups.

“Any time you bring varied thoughts and opinions together you get massive amount of social opportunities, a lot harder to conflict with each other when you are face to face with them, you need to get to know people, and this process forces you to do so. Communication pulls together, builds respect with one another that ordinarily wouldn’t be able to be done.”
“The ability to see and talk with each other on a regular basis really helped with resolving some conflicts; it was all about building a working and often peer relationship, a professional relationship. At the Source Water tables we were not always talking about NM, but it certainly assisted through facilitation. There was a real radical realization of others’ interests. Sometimes I would explicitly articulate that our interests were not in conflict with the production of commodities; I know we need healthy communities, we need a healthy environment, we need affordable food for our population, and agriculture is an extremely important practice to Ontario and the rest of Canada.”

Forums for reflexive dialogue and knowledge sharing such as advisory committees, where social opportunities are cultivated can significantly aid the working relationships between differently oriented stakeholder groups. As mentioned by one committee member representing an ENGO, discussions need not to be highly technical or formal:

“Just being on the committee and talking to them regularly, outside of the formal meeting, just over lunch, gave us the opportunity to make relationships with them, and even in some cases partner with them in pushing through some shared concerns and changes. You have to have a social forum for people to “naturally” work out issues they have; this is so important, you can’t solve problems, resolve conflict and build a relation over paper, and sometimes it was even hard at the table, but even at the table, the face to face was the key factor in making this committee work”

“Communication was completely key, both at the table and away from it in more natural and informal forms. The informal communication with livestock and CELA [Canadian Environmental Law Association] groups helped a lot. The fact that we were working on multiple issues helped us keep on track. A lot of our discussions were not always the most technical or science based discussions, but this knowledge and information was valuable to everyone.”

It is of interest to note here that the importance of informal communication during these stakeholder participation processes was acknowledged earlier in this section. Bentrup (2001) included “informal face to face dialogue among stakeholders” as one of the fundamental characteristics of collaborative planning. It is common for all stakeholder groups to have a fairly well developed knowledge base regarding, in this case, nutrients and their interaction with the environment, with some variance in capacities of course. It is however less common for members representing specific industries to comprehend the importance which nutrient management plays in others’ industries or how they address or concern themselves with nutrients and the natural environment. Often in policy development, decisions are made without properly
consulting individuals in the actual field; individuals who have the working knowledge of how policy will affect their specific scenario or industry. Effective dialogue can greatly enhance the ability for written policy to remain effective on the ground or in the field. In other words, for nutrient management policy to be effective, policy written by the Ministry of Environment in Toronto needs to be applicable and feasible on the farming operation.

5.3. Learning, Changes in Attitude, and Trust Development

Available literature suggests the importance of learning and knowledge transfer between interest groups in the development of trust and attitude change occurring between these groups in stakeholder participation processes (Reed et. al., 2010). The development of trust and understanding and a change in attitude is then argued to contribute to social learning (Reed et. al., 2010). The following subsections portray the learning, development of trust and changes in attitude that occurred between the committee members and larger interest groups during the PNMAC process.

5.3.1 What did the Stakeholder Groups Learn from Each Other?

Referring back to the literature review, Reed et. al. (2010) indicated how learning can take the form of instrumental learning, communicative learning or transformative learning. Committee members had numerous opportunities to learn from each other through various forums during the advisory committee process. A broken down depiction of what and how the various stakeholder interest groups learned from each other is offered below.

5.3.1.1. Farming Community

What Did They Learn from Municipalities?

As noted earlier in the results section, municipal involvement and interaction within the advisory committee process was fairly dismal. There was little opportunity for any significant transfer or dissemination of knowledge directed towards the agriculture industry from the
municipalities to occur. Participation in the advisory committee process did however allow for the farming community to realize that their interests and positions concerning the agriculture industry were surprisingly aligned:

“They did bring forth municipal positions and concerns; often not very divergent at all from agricultural concerns and stance. They may have had additional views, but not very often had any views to disagree; transporting materials on roads and such. I learned those gentlemen and women certainly did carry municipal concerns forward quite readily.”

“I learned real quick that some municipalities do really value the agriculture that occurs in their area, and the economy and values it supports.”

An important realization made available to the farming community through participating in the PNMAC process was how Ontario’s local governments dealt with issues surrounding nutrient management regulation. The farming community was able to grasp a better understanding as to how a large number of municipalities developed their current nutrient management regime and the societal or public influences which largely shaped it:

“Because the NMA was being put through due to the events of Walkerton, local governments had a lot of non-science based information which they had been forwarded. The social consequence and concern of such an event meant that a lot of the information they had available was socially based and what the public deemed important. In dealing with nutrient management on the advisory committee I learned a great deal in how local governments deals with provincial regulation and the provincial government.”

“They didn’t really know what they were doing. They were just reacting to rural non-farming people; this is now 97% of the rural population, this is a lot of people. They were looking to the government to set up things for them to follow, for them to work on. There was lot of confusion and angst from the municipalities in working with nutrient management; all with a lot of backlash from the public too. They were looking for leadership from the government. Municipalities often got pulled into the process because of the triggering building permits that were all locally enforceable.”

It can be largely argued here that, according to Reed et. al. (2010), communicative learning occurred between the farming community and municipalities. Effective communication between these two interest groups allowed for the farming community to re-evaluate their perspective and understanding of how local governments addressed nutrient management.
Communication was able to add clarification to the reasoning or justification for certain NM regulations put in place by municipalities.

*What Did They Learn from the Provincial Government?*

Discussions with farming members on the committee did not reveal any specific knowledge or information regarding nutrient management; it was only indicated that the technical information the committee was supplied came from OMAFRA. Of great significance was the realization on behalf of the farming community as to how the two provincial agencies (i.e. OMAFRA and MOE) differed in their role and orientation regarding nutrient management:

“There are a lot of staff people at OMAFRA that genuinely wanted to do good and wanted to know how farmers are affected; they were willing to listen; we had a lot of healthy and good discussions. The MOE was a lot more difficult to work with; they did not have very well developed consultation mechanisms with agricultural industry. MOE’s methods for public consultation were more difficult, and much more controlled. The MOE was more used to telling people how it was going to be. When we got into enforcement I was pleased to find out that there people had a good and healthy view of regulatory enforcement. It wasn’t about just nailing people; it was about helping people comply and improve. I found that there were lots of mechanisms available before the court system to deal with compliance issues.”

“MOE was very well organized. MOE had the ear of the government right off the bat. The MOE had a lot of push in the outcomes of all what the PNMAC was trying to establish. MOE is responsible for the enforcement of the regulations under the NMA. The whole process got very muddled towards the end. OMAFRA had more science than MOE; they had a lot of research into agriculture and a lot of technical engineering information and capability. OMAFRA is all about extension, all about educating the agriculture industry, the farmers; MOE was more strictly enforcement. These two cultures crashed a lot; a lot of differences between OMAFRA and MOE.”

Referring back to how Reed et. al. (2010) characterizes the numerous learning processes that could occur in scenarios such as the PNMAC, it is argued that communicative and double loop learning had occurred between the farming community representation and the provincial government. Communicative learning helped the farming community realize the provincial government had a significantly more developed understanding of nutrient management regulation and the burdens associated to its compliance than initially thought. Interactions with
OMAFRA and MOE gave the farming community the chance to reflect on the provincial government’s orientation towards agriculture and how this orientation influenced their understanding of nutrient management. It is argued here that double loop learning, involving the reflection of assumptions which shape our comprehension of knowledge, had occurred (Reed et. al., 2010).

What Did They Learn from ENGOs

The farming community had significantly varied responses regarding what they learned from the ENGOs. A significant portion of the farming community indicated that through their participation in the advisory committee process they gained a significantly greater understanding of how environmental organizations in Ontario address nutrient management and other farming related concerns. In addition, some farming members were able to realize that their positions were not always as divergent as initially perceived; and when they did there was a greater understanding as to why their views clashed:

“Obviously you are listening to the inputs and a concern from everyone; and it was interesting to see that they [ENGOs] did not always have divergent views. They were coming from a position that was important to them, their concerns, and their specific area of interest and background. You didn’t want to just pass off their concerns or opinions lightly; they had extremely well developed arguments and articulated them greatly; some organizations better than others though. If you have the position right off the bat not to agree with them that would be dangerous; you can’t have that sort of mindset for these processes, for any beneficial process for resolving disputes. I learned to have an open mind, giving them credit for being there with an honest answer and an honest stance; the same way I would approach it all.”

“The ENGO staff members were very fenced around their stance, and argued heavily based on their goals and perspective of the issue; I guess all stakeholder groups behaved this way though. Spending all day listening to all stakeholder interests, concerns, and stance really gave me a bigger perspective of the nutrient management issue and how it affected each interest group.”

“I don’t think there was any negative impact towards the farming community on behalf of them; it was great to realize they were working with us, not really against us.”
There was a large portion of the farming community who indicated that through their interactions with the ENGOs they developed a greater understanding of the role their physical set up of their farm has on the potential for agricultural runoff; both natural and anthropogenic. It was also noted how opportunities to learn from these individuals came from both formal and informal forums for communication. Less formal opportunities for communication (i.e. hallway talk, lunch conversation, etc.) allowed for large amounts of location or context specific knowledge to be shared between these two interest groups:

“I learned the significance of nutrients and farmland, and any other land in general. Most of us, the farming community, has already developed and used environmental farm plans; we were fairly knowledgeable of environmental issues facing farmers. I did learn how the design and set up of farmland can significantly reduce and avoid the runoff of manure.”

“So many things. Where and how we farm; I learned how exactly our soil conditions and physical geography of Eastern Ontario are significantly challenging for the management of nutrients, this area is very unique. I learned a lot about Goody wells, tile drainage, and those types of things. You always learn something when you communicate with people. I find that you learn a lot when you are both in formal educational scenarios such as round table talk, as well as shop talk. It is interesting how some things can be applied to here, and not there; it is important to realize that nutrients will react differently depending on where you are. It is also important to take note of what works where so you can hopefully take some parts anyways of the process that do work and adopt them to your specific scenario or area.”

Several farming community members noted how they only learned how misinformed or uneducated the ENGOs really were on farming operations and the agriculture industry in general. There were numerous indications how the farming community felt there was a significant disconnect between the agriculture industry in Ontario and the larger public, including environmental organizations. Farming individuals did applaud the advisory committee process for its ability to foster effective knowledge transfer from the agriculture to the larger and often misinformed population:
“We felt that even though we were being proactive, the public had valid concerns, which they often forwarded through these organizations, which in all truths have very little understanding of how a farm works and what the farming industry is all about. It had to be an educational process here; there is a huge disconnect between farming community and the public as well as the social activists groups. They were heavily concerned about the industrialization of the hog industry and farming industry in general, this matter came up several times, with very incorrect information.”

“I learned that they have different perceptions, understandings and goals than those of us who are actually affected by the regulations; they are not affected by the NM regulations. They are able to use the concerns and issues of NM as an opportunity for business. We [farmers] look at it as a way to improve the environment; it’s where we live and work. We have to understand where these people come from, and where their concerns lie; we also have to realize they are always opportunists.”

With significant interactions occurring between the farming community and the ENGOs present during the PNMAC process it is suggested that multiple forms of learning took place; instrumental learning, communicative learning, and transformative learning. Instrumental learning is characterized by the acquisition of new skills or knowledge. This is argued to have occurred as the farming community was educated about the influences the design and set up of farmland and farm operations have on nutrient runoff. This was also the case when the farming community learned about the various unique and location specific challenges which face proper nutrient management in Ontario (e.g. shallow soil applications). It is argued that through communicative learning and the use of largely informal forums of communication, the farming community was able to realize that their goals and interests in NM were not as divergent from those of the ENGOs as previously thought. These informal forums of communication that existed during the PNMAC process are argued to be invaluable. The farming community member comments outlined above indicate that transformative learning did take place during the PNMAC. Transformative learning occurs when attitudes and behaviours change through the examination of previously disposed assumptions (Reed et. al., 2010). Numerous farming members on the advisory committee indicated that their participation in the process had significantly impacted their attitude and perspective of Ontario’s environmental groups. There was a realization, on behalf of the farming community, of the public pressures that influence ENGOs and their actions. A significant change in understanding regarding the orientation and values of ENGOs regarding NM and agriculture in general had also occurred. As mentioned earlier in this report, it is not necessary for interest groups to necessarily agree with each other in
effective decision making. Decision making processes and the decisions themselves however, benefit greatly when stakeholders begin to understand one another better; when they start to understand why other groups are oriented the way they are regarding the matter at hand.

### 5.3.1.2. Municipalities

**What Did They Learn from the Farming Community?**

Through their participation in the PNMAC, municipalities were made aware of the actual motivations behind the farming community’s involvement in the NM policy revision process. As indicated earlier in the results section, farming individuals were concerned with the workability of the newly developed NM regulations as well as the financial requirements for compliance. Municipal representation on the committee was surprised at how much scientific knowledge the farming community had regarding nutrient management:

“They were fairly supportive of the NM idea. They wanted the province involved because they wanted standardized regulations and they wanted regulations to be kept as simple as possible and the financial burden limited. Farming interest groups had a lot of push towards having society as a whole help in funding NM because of the large public benefit and the large individual costs associated with retrofitting and changing practices. They had surprisingly strong scientific knowledge of NM.”

Communicative learning on behalf of the municipalities is argued to have occurred through their interaction with the farming community. As indicated above, municipal representation benefited from communication with farming members in realizing where exactly the interests of farming individuals lie. Municipalities were made aware of the large amount of support effective NM and standardized NM regulation had from producers.

**What Did They Learn from the Provincial Government?**

Conversations with municipal representation indicated that most of the technical and scientific information regarding nutrient management which they had learned during the PNMAC process came from OMAFRA:
“We dealt mostly with OMAFRA. They provided the technical support for the process. OMAFRA brought in outside experts for assistance. Their [OMAFRA] technical groups dealing with the issues were quite good. They [OMAFRA] were very consultative with the committee; this helped us all move forward with the NM regulation issues. They [OMAFRA] were very open to taking a second look at their own ideas as pointed out or asked by the other groups, including us.”

The learning that largely occurred here is argued to have been instrumental learning. Municipal representation indicated that through their interaction with OMAFRA in the advisory committee process they were able to acquire new technical knowledge as it pertained to NM.

What Did They Learn from ENGOs?

Due to a lack of interaction between municipalities and the ENGOs on the committee municipal representation indicated that they had not learned anything from this interest group.

5.3.1.3. Provincial Government

What Did They Learn from the Farming Community?

The majority of the knowledge provincial agency members gained from the farming community through their participation in the PNMAC revolved around ground truthing. The farming community was able to forward knowledge and information pertaining to what would actually work on a farm operation from a policy perspective. Provincial members indicated how this information was invaluable from a policy development perspective; what works on paper does not necessarily work on the ground or in the field:

“They were very helpful from a policy development perspective. I have a much better understanding of putting policies in place, and the repercussions of putting policies in place prior to working out all of the bugs, all of the issues and concerns. We do perform cost-analysis studies, and research, but we also do need those practical guys, the farmers, we need their feedback, because we often overlook things, we often don’t really get a good look at the issues at the ground level, where the people are that have to actually comply to the regulations we make.”
“From a technical perspective not a lot. I guess consistent with the goals of the advisory committee I learned a lot about the respective opinions of the farming community and how they viewed nutrient management policy. In essence I guess it really reinforced their views, they are really passionate about their industry and their profession. I wouldn’t say I learned anything really new, I have my Masters of Science in Agriculture from the University of Guelph, and my background has allowed me a great deal of understanding in agriculture and farming. I suppose the PNMAC process just echoed what I had already came to realize were the primary views and concerns of the farming interest; we definitely needed this confirmation though, and to actually hear it from the farmers.”

It could be argued that both instrumental and communicative learning occurred here. Although the technical information and knowledge was already in the hands of the provincial government, communication with the farming community aided in identifying implementation issues. There was a lot of practical and common sense knowledge transferred from the farming members through communication. It is this common sense knowledge, or phronesis, that is all too often tossed out the window (Hillier, 1995). Hillier (1995) stresses the importance of incorporating phronesis into collaborative practices in ensuring that what matters and works for whom and what can realistically be achieved is incorporated. This strikes the same chords as ground truthing. For policy implementation to be fulfilled, policy written on paper has to be feasible on the ground. Knowledge of what happens on the ground and in the field on farming operations is what the provincial government learned in this case; this is invaluable for realistic and implementable policy developments.

What Did They Learn from Municipalities?

From the perspective of the provincial government individuals involved in the PNMAC process they had very little involvement with local governments during or outside of the committee meetings. Due to this lack of interaction between these two interest groups there was little opportunity for any learning to occur.
What Did They Learn from ENGOs?

Interviews with provincial government members revealed that most of what they learned from the environmentalists pertained to their general position and concerns regarding nutrient management. It was noted how important the perspective of the ENGOs was in ensuring that nutrient management did not solely revolve around the agriculture industry:

“We had a few [ENGO reps] in this role; some were better than others in articulating and voicing their concerns and interests. They were great in broadening the perspective of nutrient management and keeping it away from being a farming policy only, the interests are not solely agricultural.”

Stakeholder interview findings suggest that again communicative learning was the type of learning that occurred here. Dialogue gave the provincial government the opportunity to learn the perspective of the environmental organizations regarding nutrient management. Concerns over the overbearing tendency for nutrient management to be solely addressed from an agricultural point of view were apparent during the PNMAC process. The communication that occurred here significantly aided the advisory committee process and other interest groups in broadening the scope of nutrient management and how it affects other industries and interests. Collaborative planning theory stresses the importance of involving all relevant stakeholders and ensuring the often overseen stakeholders have equal opportunity to influence the decisions made (Finnigan et. al., 2003). This approach to decision making ensures that the most accurate, comprehensive, and legitimate decisions are made.

5.3.1.4. ENGOs

What Did They Learn from the Farming Community?

Interaction with the farming community allowed this group the opportunity to greatly enhance their understanding of the agriculture industry. One of the ENGO representatives stated the importance of learning about all of the operating and financial constraints associated with
farming. In realizing these challenges, it was noted how they were able to better appreciate the importance of well developed and workable regulations on behalf of the farming community:

“They were really valuable; I learned a lot about the operational constraints that farmers across Ontario face. With so many different commodity groups present during the meetings and during the whole process of the NMAC, I learned a lot about farming practices, farming challenges, and the financial burdens involved in the industry. I am learning a lot more about the financial aspects of capital operations and the relevant constraints. I sat in the Ministers office during the development and passing of the Clean Water Act. Having done this really helped with the development and implementation of strategy and regulations later on. Helpful in making sure the regulations are workable; talking with farmers really helped me understand there is only so much time in the day to make sure you are doing everything ok, and everything up do “code”.”

The most significant types of learning that occurred here were instrumental and transformative learning. The environmental groups involved in the PNMAC process were educated on the financial aspects and operating challenges associated with farming in Ontario. The comment above from an ENGO representative on the PNMAC illustrates how this newly acquired information regarding the financial and operating hardships associated with farming significantly impacted the member’s attitude and understanding of the farming community. These changes in understanding and attitude, alongside the development of compassion towards other interest groups, could suggest that social learning has taken place. This is further argued as the acquired information and developments of the PNMAC were disseminated into each interest groups larger industry or community of practice (Reed et. al., 2010).

*What Did They Learn from Municipalities?*

Environmental representatives indicated that the most significant finding they learned from municipalities was the diversity and range of nutrient management regulatory regimes developed by local governments across the province:

“The main thing I learned from them was the diversity of approach they had in dealing with nutrient management. I was informed that this often occurred due to the diversity of land use across municipalities as well as the fluctuations of population from place to place. Their main concern was that they wanted strong protection for their citizens’ drinking water.”
Although what the ENGOs did learn from municipal representation on the committee was limited, they were able to grasp a better understanding of how diversified local government NM regulation really was. This newly acquired knowledge regarding the maze of nutrient management by-laws spread across the province could have had significant influence on the development of compassion directed towards the farming community. The hardships of complying with multiple local government NM by-laws on behalf of the farming community were noted earlier in this report.

*What Did They Learn from the Provincial Government?*

Through their participation in the PNMAC process, ENGO representatives learned about the provincial government’s decision making and policy development process. Environmental representatives applauded OMAFRA for their genuine consultation procedures. Working with the provincial government in this stakeholder participation process allowed for the ENGOs to recognize the importance and potential quality consultation and stakeholder involvement can have on the policy development process:

“I learned that from OMAFRA, they appeared to be serious about consultation, they seemed serious about valuing your input, including it, and implementing into regulation; this was my original view. They (OMAFRA) didn’t want to just have us all meet and talk for nothing; not to just go and do what they wanted or thought was right anyways. They were not just doing consultation for the sake of it, to save face, to legitimize the policy development process. OMAFRA had a lot of good science to back up their regulations and the regulations they felt were important. They showed me that with enough scientific research and background, that regulations can be changed successfully; that if proper research and scientific review are actually done, good policy can be made or changed for the better.”

“I learned a ton from the staff of both OMAFRA and MOE, but definitely not as much as I thought I had learned; there is a lot of processes and information relevant to nutrient management that the provincial government deals with which I still am not completely informed about. I learned about their decision making processes and how they balance their interests. There is still a lot I don’t know though.”
Having the ENGOs become more educated on the policy development and stakeholder consultation processes utilized by the provincial government represents instrumental learning. Having stakeholders such as Ontario’s ENGOs properly informed regarding the policy formation process as well as stakeholder participation processes and expectations greatly increases the potential effectiveness of future forums for stakeholder involvement.

5.3.1.5. Knowledge Transfer and Social Learning

Of significance here was the ability for the PNMAC process to encourage the transfer of common knowledge or common sense between interest groups; especially between the regulator and the regulated. This is important due to the fact that predominant reasoning behind the development of the PNMAC as directed by the provincial government was that the policy formation process did not sufficiently consult stakeholders (OMAFRA, 2002). As a result there was a lot of concern forwarded by the farming community regarding the workability and fairness of current nutrient management regulation (OMAFRA, 2002). The PNMAC is argued to have addressed these concerns. Findings from interviews with members of the Ontario provincial government shows that they were able to learn and better understand how policy actually impacts the regulated; especially the farming community in this case. The provincial government was able to benefit from the advisory committee process in revealing some of the common knowledge associated with the agriculture industry and farming practices that need to be addressed in policy making decisions. Looking back through the literature review, Eshuis and Stuiver (2005) comment on the importance of communication and further interaction between the regulator and the regulated in ensuring that suitable stakeholder knowledge is incorporated into policy. Policy implementation, regardless of the intended industry, requires the policy itself to be robustly developed using an expansive knowledge base (Pahl-Wostl et. al., 2008). This requires the incorporation of previously unsought knowledge from previously unsought interests (Pahl-Wostl et. al, 2008). As indicated above, effective dialogue between the policy makers and the farming community during the PNMAC process ensured that appropriate stakeholder knowledge was being incorporated into policy. This assured that nutrient management policy written on paper was feasible on the farm.
Findings from the stakeholder interviews strongly suggest that social learning was fostered by the learning and knowledge transfer processes that evolved during the PNMAC. Although there was a significant variance in the amount of learning and knowledge transfer that occurred between the different stakeholder groups, there were several instances where the potential for social learning thrived. For social learning to occur it is argued that a change in understanding has to take place in the individuals or groups involved (Reed et. al., 2010). The most prominent cases where this happened during the advisory committee process were between the farming community and the ENGOs. The farming community’s understanding of the ENGOs’ values and orientation regarding NM changed significantly. Dialogue helped the farming community realize that both their goals in the process were similarly aligned. The farming community also indicated they had gained considerable understanding of the motivations and influences which directed the ENGOs actions and stances regarding NM regulation. As mentioned earlier, the advisory committee process allowed for the environmental groups to grasp an understanding of the financial and operating challenges associated with farming. The changes in understanding witnessed between these two highly contentious interest groups having occurred through social interaction suggests that social learning could have occurred. The roles and responsibilities of the advisory committee members include the further dissemination of information and developments to their wider social units outside of the PNMAC. For social learning to occur during a process, changes need to go beyond the committee member and become situated within the larger community of practice (e.g. ENGOs, the farming community, etc.) (Reed et. al., 2010). The PNMAC as an advisory committee and larger stakeholder participation tool is argued to have fostered social learning.

Decision making processes that have the ability to alter stakeholders’ understanding of the policy topic as well as the understanding of other interest groups themselves can have significant beneficial impacts on policy output. When those creating policy have a substantially better understanding of those affected by policy and vise versa, not only do subsequent policy formations end up more legitimate, they are argued to be increasingly complied with. The more informed individuals are regarding policy, the more likely they will understand the justification behind the development of the policy. From here it is argued the regulated will be more inclined
to comply with the set policy; ultimately reducing conflict between the regulator and the regulated.

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<td>Municipalities</td>
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<td>Provincial Government</td>
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<td>ENGOs</td>
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Table 5.1. Summary of Stakeholder Learning and Policy Implications
5.3.2. How did Stakeholder’s Attitudes towards Each Other Change?

Nutrient management regulation in Ontario has been and remains an extremely contentious issue. As noted earlier in this research paper this can be attributed to the numerous interests involved in the efficient and environmentally sustainable management of nutrients. Nutrient management regulation in Ontario has been further convoluted since the tragic events of Walkerton in 2000. As a stakeholder participation process, advisory committees are argued to aid in the development of understanding and respect through reciprocal and meaningful communication. Prior to their involvement in the PNMAC process, numerous individuals expressed their predisposed attitude towards the other committee members representing the various industries; the following section details how these attitudes and perceptions have changed with their involvement on the advisory committee.

5.3.2.1. Farming Community

Farming Community Perception of Municipalities:

Interviews with the farming community revealed a single shared initial perception towards Ontario’s municipalities; that of significant shortcomings in nutrient management understanding. The majority of the farming committee members expressed how they felt local governments’ initially developed nutrient management regulation and by-laws were full of holes and plagued with knowledge gaps. They felt this was the result of municipalities’ use of non-scientific, emotionally based information in decision making; this decision making was also fueled by non-farming public pressure:

“It was pretty obvious dealing with municipalities that there were a lot of knowledge and information gaps in what they were forwarding and recommending. When you have a problem that affects the whole you need to have the provincial government to deal with, not local government; when the problem is widespread and has to be mitigated across the province, we need one forum, not possible to deal with every lower tiered government.”

“Before the provincial standard of nutrient management was established through the NMA local by-laws were often not very cohesive. The only information about nutrient management that local governments had was that which people gave them; people who
necessarily were in no position to do so. This is not good because the information which was accepted was largely done so on influencing powers and was wrought with emotions. All of this was not done fairly; lots of misinformation and misrepresentation.”

“...I really started to realize just how unqualified the representatives, and I guess their larger municipality were. I do admire their greater good attitude though; everyone needs this.”

Evident from the comments made above, the farming community initially felt the municipalities were severely unqualified for developing effective, workable, and science-based nutrient management regulations. It was not until further participation in the PNMAC that the farming community realized just how severely underfunded and lacking in resources local governments were and how this affected their ability to effectively implement nutrient management by-laws:

“From our meetings, from actually talking with them, I realized that all of their problems in dealing with all of this were largely because of lack of funding and operating budgets that went to understanding the issue.”

“They were always in a tough spot. With 97% of the rural community where farming happens made up of non-farming residents you get a lot of complaints, a lot of one sided complaints. You have to admire them for serving the public. Within this process they were just asking for help in dealing with nutrient management from the local perspective; I really am not sure if they got it or not.”

Farming Community Perception of Provincial Government:

The farming community’s initial attitude towards the provincial government seemed to revolve around resentment towards the way the provincial government addressed the Walkerton issue from a policy perspective. The farming community’s attitude towards the provincial government was similar to that of the municipalities; that they buckled too easily under public pressure and made hasty and irrational decisions regarding nutrient management. Consequently,
according to the farming members, the NMA was largely impractical as a result of it being hastily developed in response to the Walkerton tragedy:

“I believe the government was going too far with this. The initiative was good, the intentions were there, but like I said they were going way to far, way too fast with the development of these policies. The development of these policies was a reaction to Walkerton, because it was a reaction and hastily done, there are a lot of problems; they go too far with issues like this, way overboard, a lot of the decisions they made were unnecessary without clear thinking. It wasn’t really unnecessary I suppose, just the way it was gone about, not very effective, and not very fair or representative. It was a good thing getting all of us together. Farmers had the most to lose and adapt to these regulations, however often they had the least amount of opportunities to voice themselves, this needed to change, and I liked this part of how the government dealt with the revision of the nutrient management legislation.”

“They were trying to do good work and pull the science together but they had to do it within a vacuum, without the involvement of the public, without the stakeholders. It had to be done quickly; it was all a very reactive development for the government to develop the NMA because of Walkerton. They should have brought in stakeholders sooner in the process. They did the best they could with the baseline. There were too many holes in the regulations; this was all rolled together because of the Walkerton issue. A lot of this was taken very personally by the farming community; with the Walkerton tragedy being initially tossed towards agriculture as the culprit. I heard a lot of complaints from farmers expressing the fact that they live where they work and work where they live; their family’s do the same, why would they not care about the environment, why wouldn’t they protect it.”

After having participated on the PNMAC for some considerable time, farming committee members identified various ways the advisory committee process was able to positively change their attitudes towards the Ontario provincial government. The following statements illustrate how the farming committee members were significantly impressed with the role of the government during the stakeholder participation process and the revised NMA which resulted:

“The first NMA was a bit unrealistic in some of its expectations. I lobbied against it, to change it; it would have been impossible to work with. The NMAC came out of this lobbying, and the government’s decision to let us talk it all out, for them to understand and make note of the problems of the first act. The revised act was a lot different from the 1st one; somewhat to my surprise, the government did actually listen to us. They [Provincial Government] were not too bad in this committee with all things considered.”

“I guess, the very essence of this is that they did make policy out of agriculture, they did ensure that the regulations did apply to our industry, and not just make regulations and
assume that agriculture was just like any other industry and could adapt to it; although they didn’t realize how much the regs would essentially cost us. They did give us a chance to voice our concerns, this was proper; this was the right thing and the only thing to do. It was just an excellent way to do it. The process was very good. I highly disregard decisions that the government or any other organization makes without consulting those that would be affected. It is extremely irresponsible.”

“I had a real appreciation for how committed they were to their job, their expertise; but they were so holstered by politics. I definitely had a new appreciation for them, for how frustrating this must be for them. Essentially the government was also trying to help the farming groups save money, but they (farmers) didn’t always seem to quite understand this objective. They were trying to get farmers to avoid loss of fertilizers from over applications, unnecessary applications. There is $100,000 of savings unrealized from farmers because of miscommunication.”

Farming Community Perception of ENGOs:

Key informant interviews with the farming committee members revealed the overall perception the farming community had towards the ENGOs on the committee and other environmental activists. In general the farming community initially viewed the ENGOs as unreasonable, misinformed, and hard to cooperate with. Several farming committee members expressed their discontent with the ENGOs consistently relying on the precautionary principle to back their arguments for more strict nutrient management regulations. These comments represent the initial and generally negative attitude the farming community held towards the ENGOs:

“This whole thing was all generated from the Walkerton water situation. Many of us thought they were coming in there to blame agriculture. We were ready to dig in our heels and prove that agriculture was not the culprit. We were going to have to straighten these guys out.”

“All of the stakeholder members very entrenched in their position. There was no movement, no persuasion; they were unrealistic and not willing to negotiate. I guess you could say they were doing their job; there is just as much of chance that they viewed the farming community the same with our interests so much different from their own.”

“I did not agree with the way these groups approached the scenario, with their all or nothing mentality. This is where I think the provincial government got involved in making sure some reasoning was achieved through the whole ordeal.”
“I realized through the process the substantial amount of common sense that was missing from this groups views, opinions, and goals; it was as if common sense was just tossed out the window, GONE! They rely on zero tolerance, we can’t work this way, I understand that we need to concern ourselves with the way our practices affect the environment, but this is a give take operation, there has to be some middle-ground, we have to be able to feed ourselves, and the country.”

“A lot of these organizations were either extreme or very practical, some of them were actually both depending on what issue was currently on the table. We were usually able to work quite well with the more practical groups. It was harder to take, the more extreme of the groups, we didn’t usually work too well with these groups; animal rights activists, etc., these groups were too unrealistic. We need to produce food; people need to eat. Some groups didn’t realize we are business people as well, we also need to make a living, we also have families, just like everyone else; I need to buy shoes and shirts for my kids.”

Progressively more participation in the PNMAC process did not entirely change the views the farming community held towards the ENGOs. The farming community, after multiple interactions with this group during the advisory committee meetings, still felt the ENGOs held onto the “all or nothing” belief too strictly. Participation in the PNMAC did however allow for both stakeholder groups to improve their working relationship and ability to effectively come agreed upon decisions. Changes of attitude revealed by the farming community came in the form of being able to realize that the ENGOs had their own legitimate reasons to effectively represent themselves during the advisory committee process:

“I always knew what they were, who they were, and how they work. They had a game plan; they knew who to go to for their recommendations, for their wants. They had a fine hand in steering government decisions; they were well oiled machines and well-funded. I have no less or no more like for them really.”

“My changed view; well this was not why these guys were there, at the meetings, they were there for the same reasons as us, to provide recommendations based on their interests. By and large my perception did change, it change positively, we were working towards reasonable solutions and regulations. We didn’t manage to accomplish this for every scenario, but we did for the most part I feel. They were all working positively towards issues; I thought we were all doing very good. We were able to work towards a consensus, except for the last couple of meetings.”


5.3.2.2. Municipalities

Municipality Perception of Farming Community:

Municipal representatives present during the advisory committee process did not really forward any significant change in attitude towards the farming community due to increased involvement in the stakeholder participation process. The municipal perception of the farming community was a positive one. In general, municipal representation applauded the receptiveness of the farming community of other groups’ interests and opinions:

“My attitude didn’t really change; I was impressed with the willingness of the farming community to undertake NM initiatives. A lot of Wellington farmers have high levels of stewardship and a strong commitment to the environmental integrity of their land and their operation; they have a strong commitment to be receptive or responsible for their farm and the environment. I didn’t have too much of a change of view towards them, they were extremely receptive.”

Municipality Perception of Provincial Government:

Before the development of the PNMAC, the municipal committee members had somewhat of a negative attitude towards the provincial government. This negative attitude was attributed to the provincial government stepping in and calling for the standardization of nutrient management regulation across Ontario. Nutrient management by-laws and locally developed nutrient management regulation in this case would render themselves ultimately redundant:

“Initially municipal governments initiated the NM regs in the form of bylaws; this was all based on farmers and the public’s concern. I was surprised that OMAFRA hadn’t taken an earlier role or interest in the provinces NM issues and management. We spent a lot of time doing public work and policy; all for nothing. It was actually fairly frustrating that all of our work was lost and pretty much tossed down the tube once the provincial government took over NM; it was the right thing to do though at the end of the day.”

After having participated in the advisory committee process and having had the opportunity to meaningfully converse with individuals representing the provincial agencies, municipal representation did forward the following comment regarding a changed and improved attitude towards the provincial government:
“I was impressed with how provincial people developed NM regs and built the support for it. I was impressed with how they developed a sound technical basis; across the farming and local community. I had said that all of our work had been flushed down the drain, this really was not the case. Wellington and other areas were able to toss up some really good local knowledge to the province for their own use.”

Of significance was the ability for the municipal committee members to realize the necessity for the standardization of nutrient management regulation to occur. The comment offered above illustrates how effective knowledge transfer and translation can significantly aid the policy development process.

*Municipality Perception of ENGOs:*

Municipal representation on the PNMAC indicated very little interaction with environmental organizations in general. They did however have a positive attitude towards the numerous citizen groups that helped encourage various local governments to start developing and implementing nutrient management plans. There was no indication that this perception had changed as a result of participation on the PNMAC or further interactions with ENGOs:

“There was a combination of those groups who encouraged local government to get involved in NM. I think this was because there were a lot of areas and municipalities that had no NM plans. We had contact mostly with just citizen groups, not sure if they were all considered ENGOs; they were involved in pushing to regulate farming practices more. ENGOs should be noted as the larger public interest groups I guess.”

*5.3.2.3. Provincial Government*

*Provincial Government Perception of the Farming Community:*

Previous to the development of the PNMAC provincial agency members were rather familiar with the way the farming community addressed the issues of nutrient management. Members of the provincial government perceived the farming community as extremely politically savvy. Their attitude in general towards the farming community regarding their interests and roles in nutrient management regulation was extremely negative. Provincial
representation commented on the farming community’s unwillingness to cooperate with the regulations developed, regulations which they pushed hard to be put in place:

“We had an advisory committee that was very active politically, even before the PNMAC was created. These guys had already been heavily involved in NM planning and strategy development. Farmers were the ones who originally asked for the regulations to be made, to be made provincial, they wanted consistency, they were tired of dealing with different municipalities bylaws; they were working with us on the main key parts of the regulation development. They were making NM plans, but we were actually making them do it, follow it. This is where the regulation writing became a problem, became difficult.”

“I worked at OFA prior to this, and because of my farming background and education in the farming industry I have a very realistic perspective of the farming community; and this hasn’t changed. We developed the PNMAC and the process because we had to do it.”

Unfortunately as the PNMAC meetings progressed and further opportunities for communication and collaboration presented themselves the negative attitude of the provincial government towards Ontario’s farming community did not subside:

“Once we got into it, it got really frustrating; the farming community is so argumentative and so hard to ever satisfy. They (farmers) asked for the legislation to protect themselves from the false accusations and blaming for Walkerton; but then they cried and cried about how they couldn’t do it, they couldn’t work with the regulations imposed on them. It was so frustrating. I know this is case specific and it deals with such contentious areas. I just became much more frustrated with the group, with the farming interest; everything was a fight. They were always looking at the negative.”

“Farmers were less willing to understand the others’ perspectives than their own”.

Provincial representation on the advisory committee was caught off-guard with the way the farming community reacted towards a number of the nutrient management recommendations placed on the table. As mentioned above, several provincial agency members were surprised to have witnessed the farming community push for nutrient management regulations after the Walkerton tragedy and then wrestle the government when they had to comply with them.

“I was surprised on some issues the NMAC really blessed and what they dug their heels into, what recommendations they refuted. As a person working for PNMAC, the bureaucracy, I worked on different points of the recommendations and the PNMAC
would bless or dig their heels for further revision. Part of the time I worked on consensus building in the background. There was lots happening behind the scenes; I was surprised how they dealt with it all; when I brought to them recommendations, information, attempts at consensus, some of them had some interest, some read it over quickly, some didn’t read it at all and just dug in their heels, some didn’t bother even looking at it.”

*Provincial Government Perception of Municipalities:*

Interviews with the provincial government members really did not reveal any negative attitudes towards the municipalities regarding their role in nutrient management in Ontario. It was mentioned several times that there really was not very much interaction between these two interest groups during the committee meetings. Provincial government members did address the issue of local NM by-laws being all over the place; however they also noted how effective some local governments were in the development of their NM plans:

“I didn’t know a lot about what they did. I know there was a huge patchwork of municipal by-laws dealing with nutrient management, all over the place, all over the map, with very little conformity or consistency. I think it really came down to the municipal capacity to deal with nutrient management regulation, some had great resources to use to develop real policies, usually larger municipalities, the little ones didn’t sometimes have anything addressing NM; this is all what eventually supported the development of a provincial standardized regulation.”

“I had only dealt with the ones that had put bylaws in place already. Some were really excellent and doing a bang up job; we learned a lot from them with respect to farming policy and the plans they had already drawn up.”

Although there was no real negative attitudes initially directed towards the local governments, provincial representatives did note that further collaboration with municipal members on the committee did allow for the creation of an ally in developing workable nutrient management standards:

“It changed for the positive; more as a result of two high quality reps. They didn’t appreciate how they always had conflict due to bylaws all over the place; creating conflict. They were really an ally when we really needed to change policy. Reasonable minimum standards needed to be achieved.”
**Provincial Government Perspective of ENGOs:**

As a general consensus, the provincial government members’ attitude and perception of the ENGOs was very positive. There was a lot of respect for this group in their ability to act on and effectively argue for the issues which they value (e.g. watersheds, wetlands, etc.). The ENGOs ability to work constructively within the stakeholder participation process was also applauded significantly; their constructive participation was in direct comparison to the perception the provincial government had of the farming community. Initially there was little compatibility between these two groups. Provincial government members commented on the necessity to effectively engage and educate them on nutrient management and how it pertains to the agriculture industry:

“I viewed them as formidable adversaries. They had infinite lobbying capacity. Their views of agriculture were really warped. I realized how important it was to engage them and educated them. Environmental lobby was part of Walkerton class action suit. We had very little cooperation with them. When the PNMAC was created, it was the 1st time there was an effort to bring them to the table.

“I already had a lot of familiarity with them. I was fairly comfortable with them, so I had a good working relationship with this group. I am not too sure what Ducks Unlimited mandate was; which side of discussion they were on? I know they were advocating for the benefit and protection of watersheds and waterways in general, but I wasn’t too sure how exactly they viewed the farming industry with respect to this goal. I think they landed somewhere between, my thoughts anyways.”

“My perception of these guys was that they were there to do what they do and I perceived them for who they are, for what they do. I feel you have to commend these guys for this. They knew what they wanted and they put the effort in to make it happen. I like this attitude.”

Although the provincial government did not express any significant negative attitude towards the ENGOs, participation in the advisory committee process did benefit the relationship between these two groups from the provincial government’s perspective:

“The ENGOs were much more willing to understand the farmers’ perspective and work with them to improve the regulation.”

“I ended up getting a lot more respect for their reps at the table. In terms of a key one, I learned how to partially speak their language and learn what was important to them.”
General Comment:

“Having followed it for a long time before I was even on the government staff system there was a lot of finger pointing towards who owned the problem, who owned the problem related to the Walkerton upset. They were not focused on defining the problem, thinking of solutions, working towards remediation; there was so much energy, so much wasted energy devoted to pointing the finger at other folks. I didn’t see anyone looking to fix or actually address the problem. Almost every time, the non farming community would attack the factory farms, the large pig farms, the bigger operations for polluting our environment; people who were not familiar or educated on farming practices.”

5.3.2.4. ENGOs

ENGOs Perception of Farming Community:

Contrary to how Ontario’s farming community perceived this group, committee members representing Ontario’s environmental organizations forwarded no initial negative perception of the farming community. In general the ENGO committee members perceived the majority of the farming community as friendly and cooperative in the advisory committee process:

“They were driving it all, that they were forming the regulation in a way that would work for them.”

“Well, like many of the other environmentalists, we had pretty friendly relationships with the farmers. I live in Paris, ON, so lots of clients that I have represented through my private practice are farmers, and lot of the times NM has came up, I have an easy enough time relating with them and understanding their views. I had no negative perceptions from the start; highly friendly. The livestock producers often reached out to CELA to see where the environmental community was at with nutrient management; they were shocked to see the commonalities of what should be done in the process of dealing with nutrients, and what was doable.”

Environmental non-government organization members present on the advisory committee did not feel that the process had any significant effect on their perception of the farming community. As noted above, their initial perception seemed to remain highly positive:

“I don’t think there was too much of a change after the committee meetings.”
ENGOs Perception of Municipalities:

Environmental committee members indicated that they felt municipalities were, in general, unaware of how they really fit into the whole process of nutrient management regulation revision. Further conversations suggested the environmental organizations felt Ontario municipalities required significant help in addressing nutrient management and related issues:

“They didn’t realize where they fit into the whole process; they were just pulled into the scenario unknowingly.”

“I had specifically been asked to help municipalities with their issues. Melanchton township, Region of Waterloo, their bylaws, bio-solids management; I helped them to develop their regulations, their enforcement, the whole regime for dealing with nutrients in these areas. I was already involved in helping municipalities to protect their drinking water; I feel I was very well placed to be working on these issues with them.”

Progressive involvement in the advisory committee process, according to members of the environmental organizations, did not significantly alter the initial perception or attitude this group held towards the municipal involvement:

“Nothing changed with the municipal groups as far as my perception towards them is concerned.”

ENGOs Perception of Provincial Government:

Interviews with committee members representing Ontario’s ENGOs indicated the overall perception that the government was proceeding with nutrient management regulation development far too quickly. Ontario’s ENGOs were highly concerned the provincial government was using the Walkerton events as a catalyst to forward their own agenda. This was of significant concern, according to the environmental committee members, as a large amount of sound science was perceived to be neglected:

“That once they got a hold of the ideas, of the concerns, and of the issues, they took off with them, they were going hard and fast in their objectives and the whole process. Once the provincial government got a hold of it, it became a legal, hardcore regulation regime. They went way too fast with it though, way too hastily for them even.”
“I was actually looking in depth at the regime of setting up NM plans and efforts. I looked at other jurisdictions both within Canada and the states, mostly at other provinces. I was puzzled at why the government was taking so long and was so lazy with addressing NM concerns. I was confused to why they made the NMA before the Walkerton reports were finished and made available. They [Provincial Government] seemed to use the Walkerton situation as an opportunity to push regulations into play without sound ground work; this did not land very well at all.”

Continuous involvement in the PNMAC process seemed to have significant and positive effects on the initial attitudes the environmental committee members had towards the provincial government. Although their initial perception of the provincial government executing their own agenda was not relieved in any manner, their understanding of why the provincial government reacted towards and addressed the issue of nutrient management regulation revision did benefit this relationship:

“The one big change in opinion I had towards these guys was that I was able to not see them as big old mean regulators, but as wanting us to help them to get the policy right. Yes I still really think they went about all of these dealings way too fast, but I also think they were in a really tight spot in reacting to all sorts of pressures from every direction.”

5.3.2.5. Changed Attitudes and Social Learning

The results pertaining to the changes of stakeholder attitudes towards each other varied significantly. The findings suggest that considerable changes of attitude occurred between the farming community and the provincial government and between the farming community and the ENGOs. Although there was minimal indication of changed perception from the provincial government’s point of view, the farming community’s attitude towards the regulators changed significantly, and for the better. Interview findings showed how the PNMAC process altered the way the farming community perceived the way the provincial government addressed agricultural issues. Prior to the PNMAC, the farming community criticized the provincial government for hastily creating the arguably irrational NMA in direct response to public pressure from the Walkerton tragedy. Farming committee members were continuously concerned over the tendency for the provincial government to consistently buckle to public pressure without consulting all affected stakeholders. This attitude changed considerably with the formation of the PNMAC. The farming community was able to realize how devoted the provincial agency
members were in upholding the democratic decision making process. Although the decisions made were not always in favour of the agriculture industry, farming members were relieved to see all individuals had the opportunity to be consulted. This change in attitude towards the provincial government is of great significance. With the agriculture industry being so heavily regulated against, positive changes in attitude towards the regulator and their role in nutrient management is argued to have positive implications for NM policy implementation.

Reviewing the stakeholder interview results it is once again suggested that conflicting interest groups need not necessarily agree with one another for positive policy developments or social learning to occur. Findings indicated that the advisory committee process did not significantly change the way the farming community felt towards the ENGOs strict adherence to the precautionary principle. The process did however offer the farming community a greater insight towards this group’s justification for adopting the precautionary principle. There was also a realization on behalf of the farming community regarding the lack of agricultural knowledge represented in the ENGOs arguments. Several farming members commented on the need to share information regarding other interest group’s relative industry, context specific information largely only available through such forums as the PNMAC. Incorporating this information into the policy process is argued to result in more robust and adaptable policy better suited to address the uncertainties (e.g. groundwater movement) associated with environmental management.

Informal and face to face communication can have significant impact on how individuals perceive one another. A farming community member on the PNMAC offered this comment regarding the way their attitude towards the ENGOs changed:

“When meeting a lot of times, having lunch, you start seeing the other interest group members as human beings, with kids, with families, and not just as antagonistic; yes they may have different views then I do, but they are just as able to have an opinion as I am. Just talking to people is the way to sort things out, to work out the differences, the conflicts, the problems. In my own committee and in past discussions, issues were often resolved around the supper table afterwards, after the more formal discussions; sometimes more work was done around the table than earlier in the day, in the actual meetings.”
When stakeholders are able to communicate openly and meaningfully with each other, the ability to develop new relational capacities is realized (Pahl-Wostl et. al., 2008). The literature suggests that successful policy implementation heavily relies on the ability for all actors to realize the roles and capacities of one another in addressing the matter at hand (Pahl-Wostl et. al., 2008). The interview findings show that the farming community’s initial perception of the ENGOs’ capacities regarding nutrient management had changed significantly. As mentioned earlier, a large amount of farm related information was missing from the ENGOs knowledge base regarding NM. It is important to realize stakeholder knowledge gaps or limits in capacity in the policy development phase in ensuring that the anticipated policy results are achieved (Pahl-Wostl et. al., 2008). It is often the case where the regulated is simply unable to comply with the regulations in place due to financial reasons or capacity limitations; other instances suggest policy itself is simply not feasible in certain scenarios or locations (Reed et. al., 2010). A large amount of benefit exists in identifying the capacity limits of the involved interest groups in order to further educational efforts; this could ultimately transform into further opportunities for social learning to take place.

5.3.3. Did Trust Develop Between Stakeholders?

Raymond (2006), as noted earlier, defines trust as a “willingness to take risks on the behaviours of others based on the belief that potential trustees will ‘do what is right’ rather than based only on existing institutional incentives...” (p. 40/41). Recent studies have utilized the development of trust between individuals and interest groups as an indicator for improved relationships; trust will similarly be used for the purpose of this research (Raymond, 2006). The following illustrates the findings pertaining to the development of trust that were retrieved from stakeholder interviews:
5.3.3.1. Farming Community

Development of Trust towards Municipalities:

Consistent with previous discussions towards municipal involvement in the PNMAC process throughout the results section of this paper, it was indicated again that the farming community had little interaction with municipal representatives:

“There was not a lot of opportunity to develop trust with municipalities due to a big lack of communication.”

Development of Trust towards the Provincial Government:

Interviews with the farming committee members did suggest a general notion that the advisory committee process did contribute towards the development of trust between this group and the provincial government. The degree to which trust developed between the farming community and the provincial government varied significantly amongst the farming committee members; this is illustrated below:

“For those that were regulars, the levels of trust changed positively as the process went on. MOE tended to change their representation at the NMAC meeting. This becomes somewhat difficult, you have established an interaction with someone, then someone new pops up; this made it hard to keep effective communication going, to continue past conversations. With the people who were continuously present, yea I would definitely say a level of trust was developed or in the process anyways.”

“I thought it did to a degree; we couldn’t build a bridge to some of the issues. That’s when we decided collectively to set aside some issues and let the provincial government research it out and set forth some arguments based on science and direct some recommendations from there, in whoever’s interest it would follow. There was a development of mutual respect between the farming organization and the province.”

“I think it probably did yea; to varying degrees anyways with regards to any party. There is still a hell of a difference between the level of trust between OMAFRA, MOE, and the environmental groups; all improved to varying degrees though.”
Development of Trust towards ENGOs:

Conversations with the farming community indicated either a high level of pre existing trust or an increased level of trust towards the ENGOs after having participated for a significant amount of time on the PNMAC. Of significance here is how the farming community expressed the role of trust in aiding the advisory committee and decision making process. In cases where stakeholder groups’ interests or values collide due to differing orientation, high levels of trust have been noted to aid in the decision making process (Raymond, 2006):

“The level of trust was actually really high during and right after with the ENGOs; although their views are theirs and we have ours, there was an understanding of each interest groups roles and perceived responsibilities.”

“It definitely increased the level of trust. We begun to understand each other better and work better together. It was really great to see the increased level of operating cohesiveness between us; typically our interests were at opposite poles but we made it work. Everyone knew exactly what each group was working on and thinking. This definitely helped keep surprises in check.”

5.3.3.2. Municipalities

Development of Trust towards the Farming Community:

Executing interviews with the municipal representatives on the PNMAC revealed how effective communication between two stakeholder groups can contribute towards the development of trust. In this case, communication between the municipal representatives and the farming community was able to reveal shared values and interests regarding nutrient management:

“Yea I would say so; I think through our conversations we both felt fairly comfortable with each others’ positions. We had already had good local farm groups, but with the larger farm groups, absolutely. We forged a good bond with them after realizing our interests were not that different.”
Development of Trust towards the Provincial Government:

Municipal representation on the committee was fairly adamant in expressing their general lack of trust towards the provincial government. As noted below however, it is evident that continuous involvement in the advisory committee process did benefit the attitude the municipal representation held towards the provincial government:

“I always go into these processes with skeptical or distrustful attitude towards the provincial government. The guys who did represent the province were 1st rate, they had a job to do; we had frustrations at times but more of just a misunderstanding. The provincial people conducted themselves real well and gained a lot of respect I think from everyone, from me for sure.”

Development of Trust towards ENGOs:

In conformity with previous conversations with municipal representation on the PNMAC, municipalities had very little interaction with Ontario’s ENGOs inside or outside of the advisory committee meetings.

5.3.3.3 Provincial Government

Development of Trust towards the Farming Community:

According to several provincial agency members, from the government’s point of view, a healthy relationship between these two stakeholders had been well developed prior to the formation of the PNMAC. It was indicated that trust development in this case was significantly influenced by previous department and ministry directors. Due to successful and ongoing communication between these two stakeholders a level of trust and mutual respect was possible:

“I think so, as an OMAFRA representative. The last director had a very high level of trust, and so it is hard to not be influenced by him, since this relationship was already in place. There was a high level of trust already built; this helped with dealing with some of the conflict and some of the individuals at meetings as the old director could afford to be very blunt; otherwise this would not have been able to be done.”
“We always had a good understanding of each other; not really into the conflict. I mean sure the farmers had issues with government positions. I had a lot of communication with the Ag reps, we were never really in conflict; we had a lot of mutual respect. I am sure the continuous communication with this group held the level of trust or respect between us at a constant.”

Development of Trust towards Municipalities:

Similar to previous conversations with provincial agency members regarding municipal representation on the committee, there was not very much significant interaction between these two stakeholders to really comment on the potential for trust development.

Development of Trust towards ENGOs:

Conversations with provincial agency members regarding Ontario’s ENGOs revealed an extremely important factor in trust development, that of transparency:

“Yes I think we made a lot of progress with them; I think we absolutely developed a reciprocal level of trust. Their issues were not with OMAFRA, but with general farm policies. We provided them with a lot of transparent information; this worked well in getting them to further trust us and our purpose.”

5.3.3.4. ENGOs

Committee members representing Ontario’s ENGOs were unable to fully address trust development trends within the PNMAC process. Resulting discussions tended to further addressed the role of communication in conflict management between their interest group and the other stakeholders. These comments were included in the above appropriate results sections.

5.3.3.5. Trust Development and Social Learning

Existing literature has often reduced trust to a complimentary role in the decision making process; essentially it has been argued irrelevant in successful stakeholder interactions (Raymond, 2006). Although some literature downplays the role which trust plays in the decision making process, findings from the stakeholder interviews suggest otherwise. The development
of trust was indicated to have aided in the policy revision process between various stakeholders, most notably between the farming community and the ENGOs and between the provincial government and the ENGOs.

The development of trust that existed between the farming community and the ENGOs participating in the PNMAC was indicated to have improved their working relationship in the decision making process. The development of mutual respect between these two stakeholders is of significance. Traditionally, the orientation and interests of farmers and environmentalists regarding sustainability have clashed and will most likely continue to do so. It is the ability for decision making processes such as the PNMAC to nurture meaningful dialogue and the development of trust amidst this conflict for which it is applauded. Interviews with the farming community revealed that through their participation in the PNMAC they were increasingly able to work effectively side by side with the ENGOs. Farming members clearly stated how much easier it was to discuss and come to consensus on NM issues when you are fully aware of the intentions of the other interest groups. When both stakeholders are fully aware of the intentions of one another and have significant access to the resources available to the other interest group this can significantly influence the chance that a mutual level of trust will develop. It could be suggested here that for Hillier’s (1995) reflexive exchange to occur during the collaborative planning process, trust needs to be initially developed between the interest groups involved. Hillier (1995) states that “[f]or a reflexive exchange to be positive, it requires us to have an openness to the other, a willingness to listen and take the other’s claims seriously” (Hillier, 1995, p. 293). Discussions with the provincial members involved in the PNMAC process helped identify the notion of transparency in the development of trust between stakeholders. Referring to the development of trust that was developed between the provincial government and the ENGOs the sharing of transparent information played a significant role. When interest groups can interact with each other in a transparent manner it has been suggested that there is an increased tendency for stakeholders to begin to trust one another as well as the information they are forwarding.

As an indicator for relationship building between stakeholders, the development of trust that occurred between interest groups during the PNMAC could suggest that social learning did take place (Raymond, 2006). The development of trust between committee members satisfies two of the three requirements for a social learning process set forth by Reed et. al. (2010). It can
be confidently argued that significant changes in understanding between interest groups were resultant of the trust development that occurred during the PNMAC meetings. It is also fairly obvious that these developments occurred “through social interactions and processes between actors within a social network, Reed et. al., (2010)’s second requirement for social learning processes.

5.4. Advisory Committees and Policy Development

5.4.1. Are Advisory Committees Appropriate Tools for Stakeholder Participation?

Farming Community:

Discussions with the farming members on the PNMAC revealed the general opinion that advisory committees are effective tools for stakeholder participation. Several farming members forwarded the notion that these types of participatory processes should only be used in certain scenarios. They argued for the use of advisory committee processes when there are large numbers of individuals or stakeholder groups involved as well as in scenarios where the issue at hand is highly contentious:

“They are certainly a way to put forward opinions and views of a lot of people and organizations; you feel this way when there are a lot of people in the room, when there are a lot of concerns and thoughts floating around. I left a lot of the time thinking to myself that there was a lot of time that could have been put to much better use. This wasn’t always the case, but sometimes when you have so many people to consider, the process becomes so daunting, and feels like nothing is getting through, nothing is getting accomplished, easily anyway.”

“I believe they definitely have a place; although not all the time. When the issue is extremely contentious and there are too many individual stakeholders, then the use of these committees is absolutely needed in my opinion; but when issues are of less concern and fewer stakeholders are affected, there is not much need or necessity for them.”

One of the characteristics of advisory committees which the farming community applauded was their ability to contribute towards successful knowledge transfer and translation. From the farming perspective, advisory committees are an invaluable tool for educating other interest
groups and the larger public about the agriculture industry and what actually occurs on the farm and in the field:

“It had its positive moments; helps the educational process, through the use of the round table discussion process. It answered some key factors in properly addressing NM such as ENGO concerns and the provincial government interests. It helped us educate individuals outside of the agricultural realm. The on farm tours; this helped us give outsiders the insight on the aspects of farming that are of interest in the dissertation of NM; and it actually gave context to how proactive the majority of farmers really are, as compared to the perspective many non-farming organizations have.”

“I definitely do; a high yes! So long as they are handled in the same manner as this advisory committee. You need to have an open mind in these committee meetings in order to achieve proper and representative results. You need the knowledge for decision making; it’s a must.”

Municipalities:

Municipal representation on the committee felt advisory committees were an appropriate tool for stakeholder involvement in decision making processes. Consistent with the findings reported in the literature review section of this paper, one municipal representative on the committee did however comment on the fact that individuals needs to realize the expectations and limitations of the process they are involved in:

“It’s a good process if people understand you are an advisor not a decision maker; you have to make sure that your advice is getting through though, through to the end, to the actual decision makers. I thought we had value in the process; but for this to be this way; people have to have a good understanding of expectations from the beginning.”

Provincial Government:

Interviews with the provincial government members present during the PNMAC process were highly confident in the use of advisory committees for successful and legitimate stakeholder participation. As indicated in the comments below, advisory committee processes not only legitimize decision making processes, they also aid in ensuring that the decisions made are realistic and actually feasible. In this case, the advisory committee process ensured that
regulatory decisions regarding nutrient management in Ontario were actually suitable and workable for all invested stakeholder groups:

“Yes I do, it’s a very good idea. If you have the right people on board it can be a really excellent resource.”

“Absolutely; at the provincial government level you were supposed to make regulatory decisions in a secluded, confidential, and private environment. Without the AC in place, we wouldn’t be able to make sure regulations worked for and with all of the interested stakeholders.”

“Yes I do feel they are an appropriate tool. One very good thing was the push for the amendments, they were able to make a case for the economic hardship; it was beneficial due to this I think.”

“I do think they are extremely appropriate. The government needs to do things differently; they need to make more things legitimate, legitimate with the endorsement of stakeholders, of the public, like the revised NMA. They need policies and programs that are more accepted.”

**ENGOs:**

ENGO committee members felt the advisory committee process worked well but feel that significant improvements could have been made regarding the PNMAC specifically. There was significant concern regarding the necessity for participatory processes such as advisory committees to have well developed forums for further public awareness and education:

“I do, yes. I think though that there is still a large amount of agriculture guys out there who are not quite up to speed. I am not even really sure the majority of the province really understands the significance of all of this.”

“The committee process worked very well but in terms of a final piece of implementation, No. It was only half completed; a lot was focused on big risks, not always real risks. This hasn’t been solved, or really put forth in an education process or way.”
5.4.2. Was the PNMAC Effective in Influencing Policy?

_Farming Community:_

Interviews with the farming community indicated that this interest group was largely confident in the PNMAC’s ability to influence policy:

“Absolutely.”

“Yes it was.”

“Very! I’ve never been involved in one before this. My organization, my industry, and I are all quite satisfied. We had EFP to offset the expense.”

“Yes I do.”

“Yes I do think we had quite the effect.”

“I do believe it was. I’m quite sure it was.”

_Municipalities:_

Municipal representation indicated that the PNMAC was effective in influencing policy. The comment below indicates the importance once again for all committee members to clearly understand the roles, responsibilities, and expectations of the PNMAC process:

“Yes, but worth knowing that policy focus had already been developed. The AC was there to smooth out the implementation of the regulations and to make the legislation more palatable.”

_Provincial Government:_

Provincial government agency members present during the PNMAC process felt the PNMAC was immensely effective in influencing policy. The PNMAC was accredited for influencing the enforcement component of the NMA and helped assure compliance requirements were actually feasible for the agriculture industry. With the blessing and support from the stakeholders involved, the process gave legitimacy as well to the newly revised NM legislation:
“Yea; very. The farmers and the environmentalists brought credibility for something to be brought in front of the government. It gave the regulation instant credibility, the interest groups were there, and they recommended and worked on the necessary changes.”

“Yes.”

“Absolutely, they effected policy by ensuring that the area being regulated was being regulated consistent with agricultural best practices as well as who was being regulated and when.”

“For influencing policy, yes; they are probably due for another revision, and I would use the same blueprint. It helped deal with fines and the enforcement side of things immensely, which helps the farming community a lot.”

**ENGOs:**

The ENGO representatives on the PNMAC were not as convinced as the other interest groups on the PNMAC’s ability to effectively influence NM policy. As indicated in the comments below, environmental representatives felt there was little actual policy change that was resultant of the advice or developments forwarded by the committee:

“Not really; maybe slightly.”

“Yes and no. I think we are seeing it over time, but the package as it was developed collectively has not gone anywhere. The government did what the minimum could be; the quickest way. I wouldn’t be surprised if the next government asks for NM regulations to be revised again. There was a huge loss of opportunity; it could have better influenced policy to suit everyone; we missed this window.”

**5.4.3. Was the PNMAC Effective in Resolving Differences?**

**Farming Community:**

The comments forwarded by the farming community below suggest a general consensus that the PNMAC as a stakeholder participation process was largely effective in resolving differences between the various interest groups involved:
“Yes, absolutely, fairly entrenched in what they believe and so such a process as the PNMAC helped dissolve these differences and conflicts significantly.”

“It surely resolved some of them but not all. At least now we know where they are coming from, even if we do not share the same view or agree.”

“Possibly because of the discussions that were able to occur behind closed doors of NMAC meetings.”

“Yes! Definitely. Also, the moderators had a lot to do with the success of this committee.”

“Yes I do.”

“Yea I think it did so reasonably.”

“Yes I think it was, to some extent between the people involved.”

**Municipalities:**

Municipal representation felt the use of consensus based decision making processes generally aided in the resolution of differences among interest groups during the PNMAC:

“Yea, they [meetings] operated on a consensus base, so yes.”

**Provincial Government:**

Provincial government individuals participating in the PNMAC process were not as confident in the PNMAC’s ability to resolve differences between interest groups as the farming community was. Several provincial government individuals indicated the inability for the PNMAC process to effectively generate consensus on several of the regulatory issues, especially towards the end of the process:

“Probably not. If there was a strong disagreement between technical staff and the farming groups, conflict resolution never seemed to work. This was not a conflict resolution committee. A lot of the decisions that OMAFRA put down in front of the farming group, they would accept abruptly, or they would say OK but then mention that “this has to be done by you guys then”. There were several issues that went unresolved during the last few rounds.”
“I would give the committee a (B) grade on this one. The AC at one point was very adhesive but on 1 or 2 issues at the end, they grew further apart, they were unable to resolve their difference with these ones. The Ag groups’ relationship with the ENGOs afterwards was not as strong as it could have been.”

“Yes, because you can’t develop policy without having consensus, you need buy in, you need endorsement.”

“I would say it had a fairly positive effect on how everyone conducted themselves yea.”

**ENGOs:**

Environmental representatives felt the PNMAC was successful in resolving differences between the various stakeholder groups involved:

“Yea I do, moderately yes.”

“Yea, for reasons discussed earlier.”

**5.4.4. Was the PNMAC Effective in Improving Relations?**

**Farming Community:**

As indicated in the comments offered below, it can be suggested that the farming community was largely confident in the PNMAC’s capabilities in improving relations amongst the various stakeholder groups. The farming community’s initial attitude towards the goals and values of some of the other interest groups were largely challenged and transformed after having participated in the PNMAC process for a significant amount of time. As mentioned earlier as well, interest groups need not be in agreement with each other; for improved relations to occur however, stakeholders need to keep an open mind:

“Well I kind of hope so. I don’t know, I think that some of us thought that ENGOs would be a thorn in the whole process, but this was not the case, it did definitely improved our relations overall.”

“Absolutely, excellent, and in my opinion perhaps the most substantial asset of an advisory committee due to the ongoing benefit of improved relations.”
“For a moment in time, yes! A level of respect was developed; where that is now I am not sure, to what extent anyways. You have to leave animosity at home for the process of advisory committees to work; otherwise all you will ever do is spin your wheels. Your needs, their needs, and the environment’s needs, all under economic restraints, have to be met, even the government has their own need, and they need to get re elected.”

“Yea I think it probably did. It made regulations so farmers could live with them; not nearly as bad as before.”

“We got a lot of different branches of government around the table and a lot of stressed out interest groups; whenever you get everyone around a table arguing you get something, something at least and is always better than if they never met at all.”

**Municipalities:**

Municipal representation on the PNMAC was satisfied with the advisory committee process’ ability to improve interest groups relations amongst each other:

“Yes, I guess I would say yes.”

**Provincial Government:**

Interviews with the provincial agency members involved in the PNMAC process revealed significant confidence in the PNMAC’s potential to benefit conflicting interest group relations. Provincial agency members were impressed with the benefits of the PNMAC directed towards the relationships between the farming community and the ENGOs

“I think so, especially between the environmental groups and the farmers; as well as between government staff and the farm groups; both staff, OMAFRA and MOE.”

“In terms of adding a level of legitimacy to the NMA, yes they did.”

“Bringing professional capacity to the table and getting stakeholders to talk within themselves; they need to talk. I think it did improve relations yes.”

The PNMAC is argued here to have provided these often conflicting interest groups with the appropriate forum to constructively work together.
“Definitely, Ontario went from a totally adversarial relationship between Ag and rural and urban population to one where they realized they could work together, but they needed some rules.”

**ENGOs:**

Conversations with ENGO representatives indicated their satisfaction with the PNMAC’s ability to effectively improve relations amongst the various stakeholders:

“Yea I do.”

“Again yea, for reasons already discussed.”

The previous four sections of the Results and Discussion Section: Are Advisory Committees an Appropriate Tool for Stakeholder Participation, Was the PNMAC Effective in Influencing Policy, Was the PNMAC Effective in Resolving Differences, and Was the PNMAC Effective in Improving Relations, were used in the development of recommendations for the further use of advisory committees as stakeholder participation processes for policy development as well as social learning.
CHAPTER 6

RECOMMENDATIONS

The following section outlines the recommendations which have evolved from extensive analysis of the research findings. The recommendations primarily address the processes that occur within stakeholder advisory committees which could be improved upon. These recommendations have been argued through this research and the literature to significantly improve policy development and implementation.

Recommendation 1:

Stakeholder advisory committees such as the PNMAC have enormous potential regarding their ability to encourage social learning. Although the processes for knowledge transfer and further social education that occurred during the PNMAC process were applauded, it is recommended that further efforts to expand the knowledge base and capacity of the larger public be executed. Attempts to educated and improve the capacity of interest groups to address policy concerns is recommended. The use of such initiatives as farm operation tours that were utilized during the PNMAC process is argued to significantly improve the ability for competing interest groups to better understand the implications policy developments have on those affected by it. Informal communication forums (e.g. hallway talk, lunch/dinner conversation, etc.) have also been argued to significantly improve stakeholders’ understanding for one another and for the industry which they operate in. Informal communication methods are also further recommended here in revealing context or location specific knowledge as well as common sense. Ensuring that policy incorporates these types of knowledge greatly improves the chances for successful implementation. As noted several times in this research paper, it is colossally important for policy written on paper to be workable or realistic on the farm, in the field, or on the ground. Essentially it is recommended that more forums for informal communication be utilized in the policy development process in order to ground-truth regulations.
Recommendation 2:

The research findings suggest the need for stakeholder advisory committee members to be extensively aware of not only their roles and responsibilities in the process, but of the expectations and purpose of the advisory committee itself. These findings are reinforced in the available literature. Arnstein (1969) warns that if these aspects are left undefined or members are not fully consulted with, there could be significant and negative repercussions towards the final phases of the process. Once again, Arnstein (1969) notes, “[participants] may realize that they have once again extensively participated but have not profited beyond the extent the powerholders decide to placate them” (p.220). Further indication that all interest groups need to be fully aware of the purpose and limitations of the advisory committee process were revealed from stakeholder interviews. Several committee members felt their work and efforts were not sufficiently represented in the final revised policy and felt the provincial government was still upholding to their original and intended agenda. Similar criticisms were directed towards the provincial government from the farming community in that the provincial government was utilizing the PNMAC as simply a way to legitimize the policy; essentially to save face with the blessings of the committee members. Once again it is crucial for the final phase of policy implementation that all affected stakeholders and their larger communities of practice are fully confident in the progress and impact they had on the revised policy. It is argued that when stakeholders agree, understand, and have had their inputs realized in the policy which affects them they are more inclined to comply and uphold regulations with minimal conflict.

Recommendation 3:

The success of any stakeholder participation process, including advisory committees, relies heavily on its ability to fully integrate collaborative planning theory, into the process. A key requirement for collaborative planning offered by Bentrup (2001) is the continuous stakeholder participation throughout the entire planning process. This was a matter of concern regarding numerous PNMAC members. Interview findings revealed that at a certain time in the advisory committee process, the meetings simply halted and no further communication was initiated on behalf of the provincial government. It is highly recommended that within the
advisory committee process, all involved stakeholders should be fully debriefed regarding final
decisions and developments pertaining to the policy at hand. Having the opportunity to fully
realize which information or methods of communication worked best towards consensus
building and the process in general would have greatly benefited future advisory committee
endeavours. It should also be noted here that in hastily terminating the advisory committee
process with no prior stakeholder consultation could significantly hinder and potentially reverse
the effects the process previously had on trust and relationship developments towards the
provincial government. As noted earlier, improved trust and relationships between the various
stakeholders has substantial benefits directed towards the policy implementation phase.

Recommendation 4:

The final and arguably most important recommendation for future advisory committee
developments for environmental management revolves around effective knowledge and
development dissemination in the promotion of social learning. The roles and responsibilities of
the PNMAC members were explicitly outlined and agreed upon with the provincial government.
Although their responsibility for bringing back all knowledge and developments to their wider
operating units was made very clear, there was no formal monitoring or evaluation method
ensuring that stakeholder group representatives were efficiently doing so. Social learning relies
on changes in understanding and relationship building to surpass the individuals involved in the
learning process and become situated in the larger communities of practice (Reed et. al., 2010).
Effectively transferring knowledge to interest groups’ wider social units is argued to increase
their capacity to comply with policy developments. It is therefore recommended that efforts be
made in monitoring the progress which stakeholders are having in disseminating the knowledge
and developments obtained through their participation in advisory committee processes.
CHAPTER 7

CONCLUSIONS

With environmental and natural resource management becoming increasingly wrought with socially and scientific based uncertainties and complexities, the need for policy developments in these fields to be robust and legitimate is exigent. With traditional top-down regulatory regimes becoming increasingly obsolete and ineffective, more innovative and novel developments for environmental policy formation are argued for. The current scenario which environmental and agricultural policy development needs to address is plagued with uncertainties and increasing rates of change (Pahl-Wostl et. al., 2008). In addition to these complexities, stakeholders and the larger public are becoming more aware and increasingly educated on the environmental issues which matter to them (e.g. source water protection, invasive species, etc.). As a result of their ability to effectively voice and lobby their concerns regarding the management of their environment, an increase in use of citizen and stakeholder advisory committees has been noticed (Beierle and Konisky, 2000). This increase in the use of advisory committees for effective policy development and revision is notably a good thing. Successful policy development requires collaborative planning, stakeholder participation, and effective knowledge transfer to develop trust and understanding among stakeholders; essentially social learning must take place in order to ensure policy formations are effective and sustained. Findings of this research affirm advisory committees’ ability to address these requirements as appropriate tools for stakeholder participation. In addition, the majority of interviewed stakeholders directly stated that advisory committees were appropriate tools for stakeholder participation.

The PNMAC process clearly showed how advisory committees, as social learning processes, have significant benefits towards policy development and further implementation. During the PNMAC, stakeholders representing a diverse set of interests (e.g. agriculture, environment, public health, etc.) were able to formally and informally interact with one another. These interactions included meaningful communication and dialogue as well various types of learning (i.e. instrumental, communicative, and transformative) in efforts to integrate consensus based decisions into the NM policy revision process (Reed et. al., 2010). Interview results
indicated that when stakeholders are able to see that their concerns and efforts are reflected in policy output, their tendency to comply and support the initiatives increases dramatically. During the interview process, the majority of stakeholders directly stated that the PNMAC was effective in influencing policy. Not only is larger policy support realized here, but policies actually put in place are argued to better address the intended issue. This is of colossal importance when concerning ourselves with policy development in environmental management where the tendency to operate within extreme uncertainty and amongst conflict is frequent.

Interview findings showed how effective communication fostered the development of trust between stakeholder groups as well as significant changes in previously disposed attitudes. Stakeholder interviews largely suggested these findings to have occurred between the farming community, the provincial government, and the ENGOs. Changes in the way interest groups perceive or understand one another were shown to have colossal implications for the final phase of policy development that is implementation; assuming interest groups’ newly developed understanding for each other is effectively disseminated into the larger communities of practice. When relationships between stakeholders such as the farming community, ENGOs, and the provincial government are fortified due to a realized change in understanding, incidences involving conflict and policy compliance were shown to be substantially reduced. Of notable significance was the ability of the PNMAC as an advisory committee process to dramatically alter the provincial government’s understanding of how nutrient management policy impacts farming operations and the larger farming community. When those creating policy have a substantially better understanding of those affected by policy and vise versa, not only do subsequent policy formations end up more legitimate, they are argued to be increasingly complied with. The more informed individuals are regarding policy, the more likely they will understand the justification behind the development of the policy. From here it is argued the regulated will be more inclined to comply with the set policy; ultimately reducing conflict between the regulator and the regulated. This reaffirms that the inclusion of previously unsought knowledge from individuals previously left out of the policy development process is argued to dramatically increase the ability for policy to have its intended results; ultimately, this inclusion would render policy significantly more feasible and adaptable (Schusler et. al., 2003).

Research findings supports the notion that the PNMAC process satisfied two of the three requirements for social learning processes set forth by Reed et. al. (2010). Stakeholder interview
findings showed that significant changes in understanding had taken place in the individuals and interest groups involved. In addition to substantial changes in understanding regarding nutrient management knowledge, there was substantial evidence that changes in understanding regarding the actual interest groups had occurred as well. Satisfying the second requirement for social learning processes, these changes were realized within a larger social network, between actors representing various interests, using various methods for social interaction and knowledge transfer. The third requirement for social learning processes as indicated by Reed et. al. (2010), for changes to have become adopted and witnessed within the relative wider communities of practice, was also realized within the PNMAC process. Committee members, as instructed by the provincial government, were tasked in ensuring knowledge developments were successfully disseminated into the larger social units or communities of practice; this includes developments in stakeholder group relationships and attitudes. Suggestions for further research on the advisory committee process, as noted in the recommendations section of this paper, largely revolve around the third requirement for social learning. Future evaluations should focus on the progress which stakeholders are having in disseminating the knowledge and developments obtained through their participation in advisory committee processes to their belonging communities of practice. The monitoring of stakeholder groups’ capacities in transferring appropriate knowledge gained from their participation in advisory committee processes would further ensure that those who are regulated against are fully capable and willing to comply. This of course would benefit the ability for individuals and interest groups alike to effectively address future regulatory concerns and to wholly participate in the governance of their respective industry.
Bibliography


Appendix A

*PNMAC Interview Questions*

1) What was your specific interest in nutrient management and how was this relevant to the PNMAC’s role in regulatory development and review and policy revision?

2) What did you learn from the farming community, the local municipalities, the provincial government and the ENGOs in the process of dealing with nutrient management?

3) a) What was your initial attitude or perception towards the farming community, the local municipalities, the provincial government, and the ENGOs and their role in the process of dealing with nutrient management prior to the formation of the PNMAC?

   b) How did your initial attitude or perception towards the farming community, the local municipalities, the provincial government, and the ENGOs change due to communication throughout your participation in the PNMAC?

4) a) What conflicts existed between your interests and understanding of nutrient management and those of the farming community, the local municipalities, the provincial government, and the ENGOs in the process of policy revision?

   b) In what ways did communication among all stakeholders aid in minimizing or resolving these conflicts?

   c) Did conflict resolution through communication lead to an increased level of trust between you and the farming community, the local municipalities, and the ENGOs and a deeper understanding of nutrient management issues?

5) a) In the decision making processes involved in the revision of nutrient management policy, what information forwarded by the farming community, local municipalities, the provincial government, and the ENGOs did you find to be important?

   b) How did you get this information from the other stakeholders?

6) a) How satisfied were you that this advisory committee provided you the means necessary to influence policy decisions?

   b) Were your needs satisfied or fulfilled in the process of nutrient management revision?

   c) Do you feel that citizen advisory committees are an appropriate tool for stakeholder participation and involvement?

7) a) Do you think that the PNMAC was effective in influencing policy?
b) Do you think that the PNMAC was effective in resolving differences?

c) Do you think that the PNMAC was effective in improving relations?
Appendix B

PNMAC Terms of Reference (Provincial Nutrient Management Advisory Committee, 2005)

General

- Provincial government approved for the creation of an advisory committee
  - Provide recommendations on certain issues related to NMA regulations
    - Potential cost-sharing program
    - Application of the regulation to farms other than new and large livestock farms

- PNMAC is responsible to both OMAFRA and MOE

Scope of Committee Work

- Remaining issues regarding the draft regulations not yet resolved with stakeholders

- Aspects of a potential cost-sharing program to be developed

- Application of the regulation to all farms other than new livestock farms and large livestock farms

Technical Issues Regarding Regulation

- Largely technical issues regarding a proposed standard, underlying rationale, method of implementation, approaches to enforcing the standard

- More complex issues require additional research and policy development over longer period of time

- Formerly “stage 3” issues to be addressed by advisory committee

- Issues are grouped into 3 sets addressed sequentially by the committee
  - Report to be submitted after each set is addressed
  - Orderly and gradual development of standards over phase in period

Priority 1 Issues

- Close to resolution

- Easily addressed

- Require resolution sooner (even before 2005)
  - Existing large livestock farms to be phased in
  - Manure storage standards for existing operations
  - Decommissioning of manure storages
- Manure application on tile drained land
- Manure haulage, brokers, transfer
- Rationalization of EPA certificates of approvals and NMA approvals for on farm composting and agriculture related wastes
- Dead animal disposal

**Priority 2 Issues**

- More complex than priority 1 issues, may need more research and policy development, may not require resolution before 2005
  - On farm wash-water
  - Minimum depth to ground water
  - Manure application on shallow soils
  - Standards and requirements related to capture zones for municipal wells
  - Winter spreading requirements related to pulp and paper sludge

**Priority 3 Issues**

- More complex than priority 2 issues

- Controversial in nature

- May require additional research and policy development

- No need for resolution in the short-term
  - Manure composting and anaerobic digestion
  - Odour management setbacks and standards
  - Seasonal outdoor feeding area
  - Livestock access to waterways

**Cost Sharing Program Development**

- Required by 2005 for regulation implementation on existing large livestock farms

- Provide suggestions for funding mechanisms
  - Economic or financial instruments
    - Tax credits, loans, grants
  - Practice and technologies that may be covered by cost-sharing program

**Phase-in Issues**

- Examine how the regulation will eventually apply to the remaining and all other types of farms

- Consult on additional farm types to be regulated
Consultation on Advisory Committee Proposals

- With the development of recommendations on regulation issues and application of regulations to other farm types, consultation with stakeholders will be needed before implementation through revised regulations occurs

- Provincial government to take on consultation of advisory committee recommendations
  - Include posting of reports from NMAC to the Environmental Bill of Rights registry and other consultation activities

- Public consultation is not a responsibility of the advisory committee

Committee Governance

- Chairperson and vice-chair

- Individual committee members reflecting different stakeholder groups and perspectives

- Public service secretariats supported by:
  - OMAF (Director of Resources Management)
  - MOE (Director of Waste Management Policy)

- Ministry staff responsible to deliver supporting materials for the committee
  - Ministry staff to take recommendations forward to the provincial government for decisions

- Advisory committee to meet on regular basis

Composition

- Advisory Committee made up of members reflecting the range of stakeholder groups and perspectives:
  - General farm organizations
  - The crop industry
  - The livestock industry
  - Agribusiness
  - Rural municipalities
  - Environmental community
  - Pulp and paper industry
  - Scientific and academic community

- Members expected to discuss issues with their own stakeholder communities
  - Ensure awareness of issues and options

- Recommendations confidential until report released to government for consultation