

Engaging Industry in Community Decision Making for a Sustainable Future

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Abstract—Community based monitoring (CBM) is often directed at examining significant environmental impacts arising from the activities of industry. When industry is included as one of the active partners or stakeholders participating in CBM the results of monitoring are shared and there is a good opportunity to inform decision makers in ways that lead to positive outcomes. Too often, however, there is an antagonistic relationship between those undertaking environmental monitoring and those managing industry. CBM provides an alternative by utilizing an inclusive process that ensures communication with all stakeholders from the outset of monitoring initiatives. In this way the public, government and industry participate as a team sharing knowledge, resources and concerns to develop meaningful solutions to shared problems. The success of CBM engaging industry in community decision making will be discussed to show the ingredients of success based on current examples within Canada.

Introduction

Whether consciously or unconsciously community members individually and collectively make trade-offs among the priorities of economic, social and environment well-being. Community members would agree, however, that the choices made should not compromise the provision of our most basic needs such as clean air and water for life support and food for sustenance. Nor do community members want to eliminate the earth's natural biodiversity and the habitat needed to sustain it. In other words there are ideals held by community members that suggest communities want to act sustainably. In order to know if a community is sustainable, information must be collected about the state of the ecosystem; social, economic, and environmental conditions. Monitoring the ecosystem is therefore a core activity, fundamental to a community that strives to function sustainably.

Across Canada a variety of monitoring projects have achieved positive results for communities working towards sustainability. Community Based Monitoring (CBM) has shown that it is capable of gathering relevant information in a timely fashion to Inform Community Decisions (ICD). Community Based Monitoring Informing Community Decisions (CBM-ICD) is defined as a process where concerned citizens, government agencies, industry, academia, community groups and local institutions engage in a collaborative community effort to monitor, track and respond to locally identified issues (EMAN CO and CNF 2003). CBM-ICD

activities include partnership development, consultation and outreach, visioning, capacity building, monitoring of an environmental issue or concern, and linking gathered information to local decision-making that supports sustainability and adaptive management.

CBM-ICD Success

When community members take an active role in ecosystem monitoring multiple benefits are derived for the whole community. There is an increased awareness and understanding of human-environment interactions among those who participate in monitoring, such as school children, teachers, and citizen groups and to those who provide support such as researchers, corporations and government scientists. In addition, this knowledge is shared with a wider community when CBM practitioners effectively communicate the results of monitoring to others. The result is informed decision making and adaptive management leading to positive changes in the way we manage human activities in the environment.

Local data derived from CBM-ICD initiatives can also provide cost effective and meaningful data to assist in regional and national monitoring programs, thereby helping to establish baselines and provide early warning of larger trends that merit further investigation. In essence, CBM-ICD extends the geographic reach of existing monitoring programs and provides data gathering at a much finer scale. Our knowledge of the impact of human actions on the environment is greatly expanded

because CMB-ICD provides monitoring data collected by citizens that look at creeks, ponds, bays, wetlands, parks, woodlots, fields and backyards in local and rural neighbourhoods.

CBM-ICD engages a community in sustainability programs that promote progress towards a common vision of sustainability by providing opportunities for dialogue between citizens, government, and industry. Collaboration, a key characteristic of CBM-ICD, increases communication among all stakeholders allowing people to more directly benefit from the knowledge and assistance of universities, governments, and industry. In return CBM-ICD provides an understanding of local issues and concerns about the ecosystem and communicates this information to others, including fellow citizens and decision makers in government and industry.

CBM-ICD Inclusiveness

Sustainability is a process that engages people through programs that make them aware of social, economic, and ecological interconnections and responsibilities. The sustainability process works best when individually and collectively people make decisions and take actions based on good information and clear choices. While science is an important contributor of good information to the sustainability process, the process also relies on communication mechanisms that ensure human values are considered, tradeoffs are discussed and future options kept open.

CBM-ICD initiatives can and should involve local industry. Industry forms an integral part of communities through direct and indirect employment, infrastructure development and through financial contributions to the local tax base and to non-government and/or non-profit organizations that work towards better communities. In addition to the latter social and economic effects, industry can also significantly affect the environment within a community. The predominant public view is industry affects the environment in negative ways. Industry can and does, however, affect the environment in positive ways by reducing or eliminating current negative effects or by restoring an environment impacted by past effects. While industry must ultimately have an impact on the environment, insufficient effort is made by local communities to monitor and understand these impacts in a way that could lead to more informed choices.

Unfortunately because the role of industry is often crucial to the social and economic well-being of a community, there is often reluctance by the community to work with industry due to a fear that exposure of industry's shortcomings may lead to the termination of benefits

that are seen to sustain the livelihood of a community. In addition there is a culture of fear within industry when it comes to meaningful consultation with the public regarding performance. In most cases government is the go-between; establishing and enforcing guidelines, standards, and requirements that must be met by industry in the interest of the public good. Consequently the public direct their concerns to government, not industry, and industry works to comply with existing government regulations that may not reflect the concerns of the local community.

When industry works directly with the community in a CBM-ICD initiative new opportunities to act sustainably are created. Currently, however, there are too few examples of public-industry partnerships in monitoring. It is hoped that by examining the components of success that characterize CBM-ICD, monitoring can be seen as a mechanism to foster greater environmental responsibility among all members of a community including industry while providing a cost-effective mechanism to effect change in the stewardship and protection of the environment by government, industry and the general public.

CBM-ICD Partnerships and Networking

CBM-ICD is a collaborative initiative involving a wide variety of stakeholders in a variety of capacities. CBM-ICD creates forums that allow stakeholders to share a wide range of interests, abilities, knowledge, and concerns. Stakeholders in CBM-ICD include various levels of government; municipal, provincial, federal; education institutions including primary schools to universities and colleges; industry and corporations; non-government organizations; and individuals of the general public. Stakeholders can be involved in some or all of the following activities: the sharing of knowledge in the methods of data gathering, analysis and reporting; direct participation in data gathering; assistance in data analysis and reporting financial and in-kind support; the sharing of related data relevant to the community; and the bringing forward of issues of concern and local knowledge.

The activities of communities in monitoring and influencing local decision making will often involve new frontiers for all involved. In order to make the best use of the available information and the new information obtained, neighbouring communities will ultimately corroborate and/or compare approaches to monitoring, monitoring methods, funding sources, most importantly data, and the results of analyses. Networking is therefore

an obvious tool that CBM groups use to facilitate shared learning and data comparison. One of the most valuable outcomes of networking is shared best practices. For example, while the public may have legitimate questions about the environment and wish to participate in environmental monitoring, there is often a lack of understanding of the methods to be used to collect meaningful data. A network can bring forward and share the experience that has been applied to similar questions elsewhere.

Capacity Building

CBM-ICD bridges the gap between society and the environment by engaging communities in processes that define what sustainability means locally and tracks progress through ecosystem monitoring to produce relevant, timely information that informs decision making. Citizen science does not demand that a person is an ecologist or environmental scientist. Individuals and groups may become knowledgeable of complex issues through a desire to know. Experience has shown that the needs of ecosystem monitoring can be accomplished with minimal training; relying more on commitment than specialized knowledge.

The key components of CBM-ICD required to successfully engage communities in programs that examine the relationship between human activities and the state of the environment can be summarized as follows (North South Environmental Inc. 2004):

Getting Started—organizing meetings, initiating partnerships, engaging stakeholders

Citizen-Science Monitoring Protocols—simple methods for scientific measurement

Funding—sources and application procedures, and long-term stability

Data Analysis and Management—analysis methods, quality control, and data storage

Communication—presenting results to educate communities and influence decision makers

Collaboration—sharing methods, results (data), and adaptive management responses

Capacity Building—training/technical assistance to achieve meaningful results.

Industry has significant abilities that can assist in the capacity building of CBM-ICD citizen science and citizens can have significant experience and local knowledge than can be volunteered to industry. Each should be stakeholders in the process. Community members may have concerns about what should be monitored and industry may assist in how to conduct monitoring. Direct funding for monitoring may come from industry and these

may lead to matched funds from government or other stakeholders. Industry can participate in data analysis and management, which will assist in the communication of results to those within industry that can effect positive change. In all of the components of CBM-ICD, industry has the ability to provide the technical advice, training, and support needed as part of community capacity building.

Link to Decision Making

Sustainable ecosystem management is not an endpoint; it is a process that explores social, economic, and ecological interactions (in other words whole ecosystems) to know the implications of human actions. When society is well informed of the state of the ecosystem through monitoring, decision makers can recognize the tradeoffs required to balance ecosystem needs (social, economic, ecological). In essence, a sustainable society makes informed choices about the kind of environment in which they choose to live. Citizen science as conducted in CBM-ICD contributes to this process through citizen engagement, the acquisition of information on ecosystem condition, reporting to decision makers and adaptation through changes in policies and the implementation of actions that lead to an improved ecosystem condition.

Industry must be seen as a full participant in sustainable development, embracing an emerging vision of *whole ecosystem adaptive management* linking our knowledge of ecological trends and conditions to human economic and social activities. CBM-ICD embodies these principles through collaboration with all members of the community, including industry, in inter-disciplinary data gathering and analysis. The results of monitoring are communicated to key decision-makers so that they are better informed and can respond to local knowledge about the relationships between social, economic, and ecological issues and needs.

Conclusion

There are multiple benefits of CBM-ICD including: an improved ability to report on status and trends at local, regional and national scales; building a community that has the capacity to understand and use ecological information; the establishment of improved partnerships and networks among the community; an increase in knowledge about the environment that is in turn distributed among society; increased environmental awareness within a community leading to a change in the day-to-day behaviour of individuals leading to reduced impacts on

the environment; increased environmental awareness and concern among citizens of a community leading to an increased voice informing policy decision makers; citizens gain a better understanding of the economic costs of environmental protection; citizens provide labour for environmental monitoring and for the completion of restoration projects that effect environmental change; citizens within the community that have excellent environmental knowledge and experience, transfer and apply their expertise at little or no cost; and citizens seek and raise funds for environmental programs.

Industry can be a full participant in CBM-ICD initiatives, contributing to an increased understanding of ecosystem condition, a more engaged and informed

society and the creation of communities that are more likely to be sustainable.

References

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