# CANADIAN HANDBOOK ON HEALTH IMPACT ASSESSMENT

## Volume 3

## Roles for the Health Practitioner

**DRAFT**

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# Values, Health and Environmental Assessments

**Chapter A Contents**

## Introduction

The purpose of what follows is to describe how values-based analysis can assist health professionals in contributing to environmental assessments. Explicit attention to values is often avoided by professionals engaged in environmental assessments. In our culture, values are widely thought to be personal, subjective and emotion laden. This view seems to imply that values are not a good foundation for building consensus or solving public policy issues. It is easy to think of what is personal, subjective or emotional as irrational.

This view is unfortunate because values form the framework for environmental assessment. Environmental assessment is defined on page 2-2 of Volume 1 as "a comprehensive and systematic process, designed to identify, analyse and evaluate the environmental effects of a project in a public and participatory manner. The goal is to anticipate and prevent adverse effects of projects by determining and evaluating the positive and negative impacts a project or action will have on our surroundings. A positive impact is one which adds something of value. A negative impact is one which destroys or interferes with something we value or something we consider to be of value. The purpose of an environmental assessment, then, is to ensure that a project will contribute something of value to those impacted.

## What Values Are

The OED defines value as worth, desirability, utility. Things around us have value if they have these qualities. Good health is something virtually everyone desires or hopes for. It is so central to our welfare that it is often built into best wishes on important occasions. We desire health for its own sake because of the sense of wellbeing that comes simply

from feeling well. We also desire health because of its importance to us in meeting our needs and realizing our goals and objectives. For this reason, good health is valued also because of its utility. Poor health has negative value because it interferes not simply with our ability to enjoy life but with our ability to earn a living or put food on the table or contribute in a meaningful way to family or community life.

The values we attach to things indicate their importance or significance to us. We value economic development when it creates value by facilitating our ability to realize our goals and aspirations or to live the kind of life to which we aspire. Economic development that resulted in an improved water supply, added educational opportunities or new jobs would have this character. We attach negative value to things that impede our ability to realize our goals and aspirations or destroys things which we value. Economic development that polluted a river thereby damaging a source of drinking water or food, or threatened a valued wilderness area, or threatened an endangered species would in the normal course of events be seen as have a negative value. Our values therefore provide the framework for evaluating the worth or merit of projects under assessment.

Values allow us to differentiate between costs and benefits. Costs are negative values. Benefits are positive values. A cost is anything that absorbs resources that could be used to achieve something else of value. A cost limits our ability to do other things. Benefits are things that are valued for their own sake or because they help us to realize our goals and objectives.

Finally, values play an essential role in decisions and choices. The purpose of an environmental assessment is to put people into a position where they can decide whether in their view a project will contribute something of value to their lives. Deciding whether a project should go ahead will therefore depend on how the values of the project's

stakeholders are factored into the decision making process. One of the goals of this Handbook is to explain why health values should play a central role in this decision making process.

How then are values revealed? How do we identify values. How do we know what people's values really are? Answering this question is not nearly as difficult as it may first seem. This is because people's values are reflected in their preferences, priorities, goals, objectives, choices, and decisions. They are therefore reflected in and revealed by people's words and actions. This leads to an obvious conclusion. The best way to find out what people value is simply to ask them. This is why public participation is such an important part of the environmental assessment process. Public participation opens the door to the exploration of the values that the public believes should guide economic development decisions and choices.

**Building Values into the Environmental Assessment Process**

The World Health Organization has defined human health in terms of the capacity of people to realize their needs and aspirations. To assess the impact of a project on the health of those that are likely to be affected by it, an environmental assessment must therefore identify how a project under assessment will affect the capacity of its stakeholders to realize their needs and aspirations.

Identifying the health implications of a project for its stakeholders requires three things. First, it requires that those likely to be affected by a proposal under going environmental assessment are accurately identified. Second, it requires that the full range of values important to those likely to be affected by a project are taken into account in the assessment process. Third, it requires that the stakeholder values are properly understood.

**Step one: stakeholder analysis**

A stake is defined by the Oxford English Dictionary as an interest, something to be gained or lost or something at risk. The glossary at the end of Volume 1 of this Handbook describes a stakeholder as "any individual, organization or company that has an interest, financial or otherwise, in a project". A stakeholder can also be described as someone who stands to gain or lose directly from a project or someone who is put at risk by a project or the decision process that will determine whether and how a project will proceed and how it will be managed.

It is important early in the assessment process to acknowledge and then identify two quite different kinds of stakeholders: voluntary and involuntary. Every project under assessment will have voluntary stakeholders. These will be individuals, groups, organizations and institutions; employees, investors, governments and government departments who are free to decide whether or not to get involved in the project. For the most part, the involvement of voluntary stakeholders will be contractual in nature.

Genuinely voluntary contractual involvement requires informed choice. Informed choice requires, in turn, that voluntary stakeholders are fully informed about all aspects of a project that could reasonably be expected to affect in a material way their decision to become involved. This is a widely accepted requirement for establishing the existence of a contract in law. It is also a recognized requirement in investment regulations and other areas of business where ensuring informed choice is a recognized obligation.

One of the goals of an environmental assessment should therefore be to ensure that voluntary stakeholders have the information they need to make informed choices about their involvement. Information about potential health impacts on voluntary stakeholders

is an example of the kind of information that will be required by voluntary stakeholders.

A conscientious effort should also be made to identify involuntary stakeholders and to identify carefully the nature of their stake in a project. An involuntary stake is created whenever a decision-making process exposes people to direct and significant risks which they would not willingly assume or about which they have no knowledge. When involuntary stakeholders are not identified, the costs and risks the project creates for those stakeholders are almost certain to be ignored. The effect is to transfer those costs from a project proponent to people who may have little to gain by way of benefits in return. Failure to require cleanup and land reclamation following mine closure or failure to assess the effects of the release of chemicals into a body of water on the fish on which a local population depends for food or tourism are both examples externalizing costs to involuntary stakeholders.

When a project's stakeholders are not carefully identified, important values that ought to be taken into account in the assessment process are likely to be ignored. This may then mean that a careful assessment of the impacts of a project on the health of its stakeholders cannot be accurately assessed.

**Step two: identifying the full range of relevant values**

Many people seem to think that the purpose of environmental assessment is to balance economic and environmental values. In contrast, a much wider range of values needs to be taken into account if the health impacts of projects under assessment are going to be properly understood. For example, a recent study of four Canadian resource extraction projects identified fifteen types of values the stakeholders of those projects wanted taken into account in the assessment process: aesthetic, educational, ecological, economic, environmental, health, legal, moral, personal preference, political, recreational,

religious/spiritual, scientific, social, and subsistence values. (Note: these values are defined in Appendix I.)

Failure to identify the full range of values that stakeholders want taken into account in the decision making process can lead to serious over-simplification. One obvious casualty is health values. However, simplifying to a small number of categories may also mean that many values are indirectly connected to health for example, aesthetic, educational, recreational, moral, social, religious/spiritual and (for aboriginals for example) subsistence values. To ignore these values is to ignore issues that are central to human well-being and therefore central to human health (See p. 1-1 of Volume 1.)

Over-simplifying the range of values that stakeholders want to see taken into consideration in the assessment process has other effects as well. For example, it oversimplifies the interests of those who have a stake in the assessment process. As a result, individuals and groups whose interests in a project are quite difference will tend to be lumped together. A good example is aboriginal stakeholders. Frequently, those involved in the public discussion of environmental issues assume that aboriginal groups will be aligned with environmentalists and opposed to economic development. In fact, if careful identification of the values these two distinct groups typically bring to environmental assessments is undertaken, quite important differences are likely to emerge. (A careful reading of Chapter 5 of Volume 1 of this Handbook should confirm this observation.) For example, typically, aboriginal groups place a high priority on the social impacts of projects undergoing environmental assessment in which they have an interest. Religious/spiritual, subsistence and environmental values are also likely to be prominent. This may not be the case for environmental groups whose interests are likely to be more narrowly focused on just environmental and ecological values.

Finally, careful identification of the values of the stakeholders of projects under environmental assessment will ensure that the values of all stakeholders, including those

who may be politically invisible will be taken into account. This is an important factor. For example, involuntary stakeholders may not even be aware that an environmental assessment is taking place. Yet their health may well be at risk. Values based analysis that is sensitive to the whole range of values that those likely to be affected by a project would like to see be taken into consideration in the decision-making process will help to ensure that no one's interests and concerns are left out of the picture.

**Step three: understanding stakeholder values**

The third requirement in building values based analysis into the environmental assessment process is ensuring that the values that those affected by a project want to be taken into account in planning and project evaluation are properly understood. Errors in the interpretation of the values of those affected by a project under assessment can be harmful and can generate serious resentment.

The language of values is in some respects quite simple. Essentially, values have just one of two functions. One of those functions is to identify the ends or the fundamental goals and objectives that define the stake or the interest that makes an individual, group or company a project stakeholder. These are best described as core values. One of the reasons for building health into environmental assessments is the belief that good health is a core value for virtually everyone. For this reason, it is important to take it into account in deciding on the merits of a project.

We also value things for their usefulness or utility in helping us to get where we want to go. Values of this sort are frequently described as use values. Water is valued for drinking. It is an essential for life and therefore has significant use value for all human beings. Water is also an important ingredient in many industrial processes for which it also has important use value as a means for accomplishing industrial objectives. And of course it

is valued for many other reasons as well. Economic development is valued for the benefits it will bring, an improved standard of living, for example. It is because it is a means to the achievement of these benefits that development is valued. Development that generates benefits has a positive use value. Development that has harmful impacts has negative use value relative to the goals and objectives it interferes with.

[Note: I would like to put a diagram either as an appendix or integrated here into to the text. The purpose of the diagram is to illustrate the relation between core values and use values The relation between core and use values is illustrated in appendix two.

**Identifying Core Values**

Core values are the values that identify the fundamental goals, purposes objectives, principles, or ideals of a project's stakeholders. They are the values that identify things that are regarded as valuable for their own sake. For many people, health, family, or work will have core value. Protecting biological diversity or endangered species or a place of great natural beauty can also take on the character of a core value.

Core values reflect people's aspirations and are linked to their sense of well-being. Consequently, if the core values that define someone's interest or stake in a project are not respected, the project will be seen as damaging or harmful, or offensive. If a project does not interfere with people's core values, it will likely generate few if any objections. If a project contributes to the realization of core values, it will be supported.

Effective environmental assessment is possible only if the core values of those who have a stake in a project are carefully identified. This is less difficult than it may sound for two reasons. First, some of the core values will be defined by the legislation governing the

assessment process. That is to say, environmental assessments are mandated with particular goals and objectives in mind. These will be core values for those responsible for carrying out the assessment. For example, the definition of "environmental assessment" on page 2-2 of Volume 1 indicates that one of the central objectives of an assessment is to ensure that the environmental effects of a project are known and evaluated before the project gets under way. A second core value is public participation.

The task of identifying core values is less difficult than it may sound for a second reason. For health professionals participating in an environmental assessment, the key core value is health. Impact on health is therefore the key issue and the central criterion for assessing the positive or negative value of a project.

Not all impacts on health will be direct impacts, however. And this does add a complication. The World Health Organization definition of health makes it clear that the impact of a project on health will depend in part on how it enhances or inhibits the capacity of stakeholders to meet their basic needs and realize their goals and aspirations. For this reason, assessing the core values that the various stakeholders bring to projects under assessment will have to be identified if a project's health impacts are to be understood.

Once again, identifying the values that stakeholders want taken into account in an assessment process is less complicated than it might seem on first glance. This is because, as a rule, in any given situation, the core values individual stakeholders or groups will bring to a development project will be relatively small in number. Further, quite a number of those values will be shared by all the stakeholders. And for the most part, those shared values will become obvious from public input.

For example, fishing will almost certainly be a core value for a community that relies on fishing as a basic source of nourishment. Protecting that resource will therefore have important direct and indirect health implications for them. For a community with high

unemployment, job creation might well be a core value. A project that promised job creation would assist that community to achieve a core value or objective and thus have positive health implications for stakeholders, assuming of course that other important values were also respected, like for example, access to clean water.

**Identifying Use Values**

Core values identify the goals and objectives and other things of fundamental importance that define people's stake in a project. Goals and objectives have value, however, only if they are realizable. Hence core values always connect to questions about means: How do we get there? Can we get there? What resources are available to achieve our goals and objectives? What are the obstacles? Is it worth the effort? Anything that can help us get to where we want to go will have use value as a tool or means allowing us to accomplish what is important to us. Thus a proposal to build a saw mill in a remote community may well be supported because of the jobs it promises to create. Its job creation potential will be its use value for those wanting jobs. The logging needed to supply the saw mill will also have use value for the same reason. On the other hand, both the saw mill and the logging needed to support it will have also have negative value if the mill threatens to pollute a river that a community depends on for drinking water or for fishing.

Most common values an environmental assessment will deal with will be use or non-core values. Hence, assessing the use value or utility of a project from the perspective of its various stakeholders is a basic task of environmental assessments. The task of environmental assessment is to ensure that the development will be genuinely beneficial and that adverse impacts (negative use values) can be mitigated or adequately compensated for. Will the development generate employment? Will it support or

undermine community development? Will it bring social problems that will be hard to deal with? Will it enhance or undermine the health of those affected by it? All of which is to say, will the project help people to realize their goals and aspirations or undermine their efforts in this regard?

There are three kinds of use or non-core values that play a role in environmental assessments. Distinguishing these three kinds of non-core values will be for many assessors the most difficult part of the process. Failure to recognize the different roles played by non-core values, on the other hand, can result in serious misunderstandings and serious conflict.

In main stream North American culture, instrumental values are the most easily recognized kind of non-core or use value. This is because one of the most common ways of determining the value of something is by determining its instrumental value. Everything we use to accomplish our goals and objectives has this kind of use value. Houses, cars, tools or all kinds, artefacts of all kinds are normally created or invented for their instrumental value. The more useful something is, the greater its instrumental value. The more important a goal or objective is, the greater the value of anything that is a means to achieving it. On the other hand, if an end or objective loses its value, everything that acquired value as a means for accomplishing that objective or end will lose its value as well. Thus, as gold loses its value, gold mines decline in value as well. Computers that are as little as a few years old are worth practically nothing because they have been replaced with computers that do much more much more efficiently. New technology makes old technology worthless.

Instrumental values have a number of characteristics. Two are particularly important. First, the instrumental value of things can almost always be monetized. That is to say, we can usually capture the instrumental value of things in dollar terms. We determine the costs of acquiring, or building or creating them and set these costs against their value for

doing a particular job or accomplishing a particular objective. If the benefits exceed the cost measured this way, it is easy to think that the project should go ahead. For this reason, cost/benefit analysis will normally focus on the instrumental value of the things being analysed.

There is a second kind of use value at work in environmental assessment settings that are sometimes confused with instrumental values but are really quite different. Sometimes, we value things not because they are helpful in realizing core values but because they are essential. That is to say, in some cases, the value attached to things by stakeholders will derive from the fact that in the absence of that thing, something seen as having core value will become unattainable. Imagine, for example, that a tract of wilderness has qualities that are essential to the survival of a threatened species. There are no alternative habitats. If ensuring the survival of that species is a core value, then threatening the integrity of that tract of wilderness will threaten a core value directly. When this is the case, insensitivity to importance of the use value in question constitutes insensitivity or lack of concern for the core value it supports. Insensitivity to values of this sort can have health implications as well, though clearly it will not have these implications in every case. Projects that destroy things seen as essential components in a way of life, for example, will have damaging cultural impacts and indirect health implications.

One of the challenges of environmental assessment is to differentiate those things that stakeholders value for instrumental reasons as useful tools or means to accomplish things they think are important from things which are not simply useful but rather essential. The difficulty here lies in the fact that stakeholders themselves may not always recognize the difference. Sometimes, stakeholders will resist change believing something to be essential when it really is not. And sometimes people will agree to change without understanding the serious implications of that change for their way of life. Effective environmental assessments can go a long way to ensuring that these kinds of mistakes are not made. However, serious resistance to a project by stakeholders on the grounds of the harm that

the project would cause if allowed to go ahead is an important indication that the values at stake are not just instrumental values.

Symbolic value is a third kind of use value. That is to say, people also attach value to things for their symbolic significance. Good examples in our culture are flags, or wedding rings, or objects associated with religious observance. What is less commonly recognized is the wide range of things and activities that can come to have symbolic value. Equally important it the fact that in our culture the symbolic significance of things is frequently unnoticed or ignored. A good example is the value we attach to jobs. Jobs have instrumental value. They provide income that allows people to provide for their families, for example. Seen from this perspective, their value can be determined by the income they generate. However, jobs can also acquire great symbolic significance. Seen from this perspective, their value is quite different. If a job has become invested with symbolic significance, for example, another job generating the same income will not have the same value. Thus, offering someone who has been a trapper all his life a job as a construction worker on a hydro electric dam project will likely not be accepted as a fair trade off by the trapper or his community. Those who are offering the trade-off may well fail to understand the resistance and chalk it up to bargaining or obstinacy. However, on the contrary, the resistance may reflect the fact that trapping for those involved has become a symbol of a way of life in which case those offering the trade-off will have misunderstood what is at stake for the trapper or his community or family.

Similarly, a forestry company may be tempted to measure the value of a tract of wilderness by the market value of the fibre it contains. A mining company may be tempted to measure the value of the same tract of land by reference to the market value of its mineral deposits it is thought to contain. In contrast, that same tract of land may have great symbolic significance for environmentalists and their supporters or for its aboriginal inhabitants, or for hunters or fishers. In each case, the core values whose importance the land symbolizes may well be different. What each of those assigning the land symbolic

value will have in common, however, will be emotional resistance to an assessment process that measures value only in instrumental terms.

The reason for this is that symbolic values have characteristics that are quite different from instrumental values. Typically, things that have symbolic value are not replaceable in the way in which tools or instruments are replaceable. Their value cannot be measured or calculated in monetary terms in contrast to things whose value is instrumental in nature. Symbols are not instruments in this sense. A job that has taken on symbolic value for an individual or group of people cannot be replaced with just any other job generating the same income. A tract of land that has become identified as a national park cannot simply be replaced with another tract of land having similar characteristics. The value of a type of employment will be quite different for two people one of whom sees it as a source of income only and the other of whom sees it as symbolizing a way of life. Substitution or compensation works will normally work quite well for things whose value is purely instrumental. Its most likely effect will be to arouse anger and resentment on the part of people for whom it is a symbol. Symbols are not interchangeable in the way that things having only instrumental value are.

The reason for the difference lies in the way in which symbols symbolize core values. Symbols stand for core values. They may symbolize a way of life or particularly significant social relationships, a marriage for example, or environmental commitments, a commitment to protect endangered species, for example. In contrast, things whose value lies only in their utility are easily replaced when something that can do the job better comes along.

Symbols are particularly important for health impact assessment for two reasons. First, health itself is frequently invested with symbolic significance. A community may well measure its own health by the health of a nearby river or stream or lake even though the river or stream or lake is not a source of drinking water for example. Similarly, environmental destruction can symbolize insensitivity to health issues even though no

direct damage to the health of anyone can be traced to the environmental impacts themselves. Happily the converse is true as well. Cleaning up a river or a lake or rehabilitating wild lands or parks can have impacts that go well beyond any results that could be predicted if only instrumental evaluation were in play.

Second, insensitive treatment of symbols is likely to be interpreted as a lack of concern or respect for the people for whom they are symbols. This in turn can have a damaging impact on the quality of life of those affected with subsequent implications for their health and welfare.

Two examples will help to illustrate these points. Traditionally, hydro electric development in northern Canada has been undertaken with little concern for its impact on aboriginal communities living in the north. More recently, sensitivity on the part of developers, including public utilities to environmental impacts has increased due in part to the requirement that large new developments must undergo environmental assessments. Indeed, one of the core values that now frequently attached to resource development is sustainable development. The problem for project developers, however, is to assess the impact of hydro electric projects from a sustainability perspective. For example, building dams that result in extensive flooding put mercury into the water that poisoning the fish. Aboriginal communities must then be advised not to use the fish as a source of food. Because environmental legislation no longer permits this kind of cost to be simply externalized, development proponents have concluded that sustainable development requires either substitution or compensation. One solution offered over the past two decades on at least three different occasions by companies committed to sustainable development has been to truck in frozen fish as a substitute.

This offer is reasonable if fishing is assessed from a purely instrumental perspective. That is to say, if the value of the fish no longer available to native fishers were measured from an instrumental perspective only. this solution would provide adequate compensation for

the fishers affected. Indeed, some people might think that it was more than fair since it would mean that the people affected could maintain their diet without exerting any effort. However, for the aboriginal people involved, fishing symbolized a way of life. The activity and the food gathered was important because it symbolized a complex web of social and spiritual values. Frozen fish produced commercially could not have this kind of value. Hence, the offer devalued the core values of the people affected and caused anger and resentment.

Similar examples have been generated in recent years by environmentalists proposing that land be closed to logging and returned to wilderness status. Projects of this kind have obvious implications for loggers who face a loss of work if the project goes ahead. This is an obvious cost. The problem is to decide how to address it. One solution has been to propose that displaced loggers be guaranteed alternative forms of employment generating a similar income sometimes in their own community, and sometimes elsewhere. Loggers faced with proposals of this sort commonly respond with anger and resentment. This is because people living in small northern communities often see logging not simply as a job but rather as a symbol of a way of life to which they are strongly committed.

To summarize, values perform one of two functions. Core values identify things which identify the ends or the fundamental goals and objectives that define the stake or the interest that makes an individual, group or company a project stakeholdert. Use values, on the other hand identify things whose value derives from their usefulness in realizing goals and objectives of fundamental importance. Use values in turn fall into one of three categories. Some things will be valued for their value as tools or instruments useful in pursuing goals identified as having core value. Some things will be valued because in their absence, core values would not be realizable. Other things will acquire value as symbols. A sound environmental assessment will deal with each way of identifying the significance of environmental impacts on its own terms.

**How to Build Values into the Environmental Assessment Process**

Environmental assessment is a process involving five steps: project description (step 1); scoping (step 2); determining significance step 3); determining mitigation and follow-up (step 4); and recommendations regarding the project (step 5). Values based analysis in turn has three elements. Each step emphasizes one of these three elements.

**Step 1:** The first task in environmental assessment is to provide basic information about the project. The first task in values-based assessment is stakeholder identification. It is important, therefore, that the project description include the information that will be needed to identify the project's stakeholders. The project description should also contain the basic information stakeholders will need to identify the nature of their stake in the project. Second, unless the stakeholders are identified in the project description, it will be difficult to determine whether the project is likely to generate health concerns and the general nature of those concerns. Stakeholder identification at stage one does not require a more elaborate process than what is set out in Volume 1. What it does require is careful consideration of the factors set out in Table 2.1 at page 2-4 of Volume 1.

Once stakeholders have been identified, it is important to ensure that information in the project description is communicated in a way that allows the project's stakeholders to understand in general terms what they have at stake.

If the project description accomplishes these two goals, it will also ensure that the public generally knows who the stakeholders are and has the information it needs to build an adequate understanding of the nature of the project and its implications for the individuals, groups and communities that will be affected by it.

**Step 2:** Scoping builds on step 1. It requires identifying the biophysical and social environmental effects of a project that need to be assessed. Building a values component into this second stage of the assessment process will help to ensure that what is at stake for each stakeholder and stakeholder group is properly identified. This requires two things. First it will be important to identify the full range of values that stakeholders want to see taken into account in the assessment process. An environmental assessment is not likely to be effective if it identifies the relevant stakeholders but fails to consider the full range of stakeholder values likely to be affected. Ensuring that the full range of stakeholder values are considered will be particularly important if the indirect health impacts are to be accurately identified. For example, if aboriginal stakeholders are identified as stakeholders, but the values they think are important are not taken into account in the assessment process, impacts that may turn out to be vital to their health and welfare will simply be ignored. If impacts on social patterns are identified as important but impacts on recreational patterns or things of scientific value or political importance are deliberately or inadvertently ignored, things of value to some stakeholders will not be factored into the assessment process.

Second, scoping should include an assessment of stakeholder core values. Does the project intersect with goals and objectives or values that are of fundamental or central importance to the project's stakeholders? What are those goals and objectives and values? What is the nature of the impacts? Are the impacts direct or indirect?

How are core values identified? In some cases they will be obvious. Health is a core value. Hence identifying direct impacts on health ought to be a central objective of environmental assessment. It is the impact of a project on the core values of the projects stakeholders that will pose a challenge since these impacts will affect the health of stakeholders only indirectly. However, identifying indirect impacts on health will be crucial to an effective assessment since indirect impacts on health can alter the quality of life of stakeholders in significant ways.

One way to identify a project's impact on core values is to determine how a project is likely to affect the lives of its stakeholders. If significant changes are the likely result, it is almost certain that core values will be impacted. The challenge will then be to identify how the project will affect the capacity of those impacted to realize their core values. A second more direct way is simply to ask informed stakeholders whether a project raises fundamental concerns for them, what those concerns are, and why. It is the "why" that leads toward core values. Core values will be in play when strong emotional attachments are exhibited or answers to the question "Why is this important?" or "Why do you value this?" are no longer forthcoming. One indicator of a core value is the fact that when asked why something is important, the person being questioned can offer no reasons beyond sayings things like: " It simply is"; or "that is the way we have always done it"; or "I cannot say anything more than I already have"; or simply "It is a core value or something of fundamental or intrinsic importance for me".

Projects that do not put core values at stake are unlikely to arouse serious debate. It does not follow, of course, that core values are not in play just because a project has not generated serious debate. The lack of public concern is a reliable indicator only where a comprehensive project description has been undertaken and shared in a comprehensible form with all a project's stakeholders.

**Step 3:** Determining the significance of a project's impacts will benefit from careful identification and analysis of non-core or use values. How will the project under assessment impact on the ability of those affected to realize their core values? Will the project damage things seen to be of fundamental importance? Will it open the door to new and better ways to accomplish ends of fundamental importance to stakeholders or close doors that are currently open without putting something better in its place.

The objective here is to ensure that the impact on the ability or capacity of stakeholders

to realize core values or live in accordance with their core values is carefully identified. Equally important, however, will be carefully identifying the nature of that impact. Will the project provide stakeholders with new and more effective ways to do the things that are important to them. Or will it reduce their capacity by removing or damaging valuable existing resources or practices on which people have come to rely? The focus here will be instrumental evaluation and the negative and positive impacts on things of instrumental value. Second, it will be important to determine whether the project is likely to put at risk something whose value is irreplaceable because without it, core values cannot be realized? Project impacts having this character will sometimes be obvious. A project that puts at risk an endangered species would be an example. Understanding the nature of an impact may be more complex. For people used to thinking about jobs from a purely utilitarian perspective, understanding the integral role of work related activities in a minority culture will be difficult and challenging. Failure to do so, however, may leave impacts with important indirect health related significance undetected.

Finally, identifying impacts having symbolic significance will be important. Once again, identifying things having symbolic value for stakeholders will often be challenging in part because it will not always be obvious even to the stakeholders involved what among the things important to them are important for their symbolic significance. A complicating factor will be the fact that some things having symbolic value will have instrumental value as well. Water and food are examples. Both have obvious instrumental value. Both can also come to be invested with symbolic value as well. Failing to capture both kinds of value in an Step 3 of the assessment have serious consequences for step 4.

**Step 4:** If values have been accurately factored into the first three steps of an environmental assessment, where mitigation is important and follow-up necessary will be greatly facilitated. Understanding how and why something is valued will make it easier to

communicate and easier to find responses that are seen as appropriate by the stakeholders affected. If the value being disturbed is an instrumental value, compensation and/or substitution may well be appropriate and negotiating an appropriate solution (based on the determination of market value, for example) will offer in most situations a fair approach to achieving agreement. Mitigation will be the most obviously appropriate response where values integral to the achievement of core values are in play. Here substitution will likely not solve the problem. Neither will compensation unless project is seen by those affected as generating new opportunities or new values that the stakeholders come to see as equally attractive. What should be clear, however, is that inappropriate solutions when dealing with values of this nature might well have indirect but significant health implications.

Finally, responding to impacts having symbolic significance will require ingenuity and perseverance. Offering compensation, particularly monetary compensation based on calculations of market value, will almost always generate hostility and resentment, for example, offering market value for the land occupied by a cemetery or used as a traditional burial ground. Neither will substitution constitute an effective response. Providing people whose lives and social relationships have evolved from traditional ways of working the land with a factory job will not normally be perceived as fair or equitable. Offering to contribute a significant sum of money to a environmental cause as compensation for risking an endangered species is unlikely to be accepted as an appropriate solution to environmentalists or a community committed to environmental values. Solutions to these kinds of problems will have to be arrived at in quite different ways.

**Concluding observations**

These last comments may seem to some readers to expose a serious flaw with values-based environmental assessment. Identifying values for which traditional remedies like compensation are not appropriate is surely to create conflict not resolve it. And why should development be held up by symbolism or traditional lifestyles that may well be regarded as economically unsustainable in modern economies?

There are two answers to this kind of worry. First, ignoring symbolism and forcing significant cultural change is likely to have serious repercussion for the health of those affected. If protection and fostering health are core values for environmental assessment, then problems which cannot be mitigated, and for which substitution and compensation are inappropriate cannot be ignored. Secondly, direct and indirect impacts on core values can be negotiated. In some cases, negotiation will result in radically redesigned projects. In other cases, it will result in recommendations that projects not go ahead. People are capable of rethinking, reevaluating and restructuring their values. It is a process that is characteristic of all living cultures. Key to this process, however, is mutual respect. Dismissing people's values as not worthy of notice or attention is the ultimate form of disrespect and humiliation. Acknowledging core values and responding to them with respect is the foundation of effective problem solving. Effective problem solving with health as a core value ought to be the goal of effective environmental assessment.

## Appendix I

### *VALUES THAT IMPACT ON ENVIRONMENTAL DIALOGUE:*
### *A List with definitions*

* Aesthetic: Values having to do with beauty.

* Ecological: Values of nature independent of human use or enjoyment. Eg., the value of the existence of a plant, an animal, a species or an ecosystem for its own sake, even if it is of no use or benefit to people.

* Economic: Values having to do with the generation of material wealth.

* Educational: Values having to do with the passing on of knowledge and of skill in the use of knowledge.

* Environmental: Values having to do with features of environment that are useful or enjoyable to humans or that support human life. Eg., the value of clean air and water, of quiet, of wildlife that people enjoy, of protection from dangerous solar radiation, etc.

* Health/safety: Values having to do with human physical wellbeing and safety.

* Legal: Values having to do with laws, rules and orders enforceable in a court. Eg. the value of acting within the law, of being law-abiding, or of deciding on the basis of legal principles.

* Moral: Values having to do with right and wrong, good and evil, and such virtues as justice and

fairness.

* Personal: Values of a private or idiosyncratic character, such as sentimental attachments, individual tastes, personal preferences, etc.

* Political: Values having to do with legitimately authorized actions, procedures and decisions of governments and government agencies, and with efforts to influence governments and government agencies. Eg., the value of a government or government agency's acting within its mandate and jurisdiction, following proper procedures, acting in a fair and democratic manner, etc, or the value of a lobby group's acting in an effective and appropriate manner.

* Recreational: Values having to do with pastimes whose goals are relaxation, amusement, refreshment etc.

* Religious/spiritual: Values having to do with what is thought, understood or perceived to be sacred.

* Scientific: Values having to do with gaining knowledge through systematic observation and/or experimentation. Eg. the value of a forest or stream as a site for biological research.

* Social: Values having to do with human relationships such as families, friendships, communities, cultures and ways of life.

* Subsistence: Values having to do with provision of the necessaries of life outside of a cash economy.

**References and Further Reading**

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