CIELAP BRIEF ON **SUSTAINABILITY IMPACT ASSESSMENTS**

The Current State of Sustainability Impact Assessments of Trade Policies

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As Environmental Impact Assessments followed in the wake of the first years of the Environmental Movement, so the concept of Sustainability Impact Assessment (SIA) has slowly been developing as the concept of Sustainable Development gains currency and force. Unfortunately, they have been moving at the same pace: Glacial. The Environmental Movement gained steam during the 1960s, but it wasn't until the 1980s that EIA became widespread, and the process and concepts are still being developed and refined. Sustainable Development first became a mainstream concept as a result of the Brundlandt report in the early 1990s. At this pace, SIA will be accepted and routinely enforced sometime around 2015.

This is a slight problem: While projects with environmental impacts will continue as long as humanity does, and with them the need for EIA, trade liberalisation polices have been reaching a crescendo during the last decade. If we take as long to arrive at a workable SIA framework as it took to create EIA, the most damaging effects of these trade policies may already be firmly entrenched and difficult to remove.

We have seen the first SIAs of trade policies take place only during the past few years. The frameworks used are widely contested and flawed on many counts, from the founding assumptions (that trade liberalisation is good and provides net benefits) to the methodologies used (criticisms of specific models or the use of particular techniques) to the conclusions drawn from those models.

On the one hand, this state of affairs is exhilarating; there is a lot of potential for influence and creativity at this stage of the game. On the other hand, a certain sense of

urgency is tingeing the exhilaration with anxiety. The FTAA was originally scheduled to be completed and signed by 2005. While this timeline may turn out to have been wildly optimistic, it is still likely that the process will conclude well before the Canadian government institutes an SIA policy that meets the criteria outlined in various NGO position statements.

CIELAP wrote a comprehensive report summarising the current state of the project as well as the weaknesses remaining to be addressed in the SIA field. It is not my intention to repeat the substance of that report here. Her conclusions and the ways in which they have been addressed by this report are included in Appendix A. However, my purpose in this report is to bring the debate in a slightly different direction: Given that these flaws exist with current SIAs as performed by traditional "legitimate" actors (governments and international bodies) and given that the pace of change in these institutions may be entirely too slow to allow for a rigorous SIA of the trade policies forthcoming in the next several years, what can be done by actors outside of this arena, and how?

SIA for NGOs

The contention of this report is that it is both possible and desirable for NGOs to conduct credible and legitimate SIAs of trade policies themselves. Possible because the means and resources are within their reach, and desirable because NGOs have the motivation to incorporate the state-of-the-art into their practices now. Furthermore, NGOs have a better track record at involving stakeholders and conducting open and participatory processes.

This is not to say that it is not still crucial to attempt to reform and mould the official state and international processes to something acceptable (transparent, accountable,

participatory, credible, etc.). But waiting for this day to come may not be the best option, especially considering the FTAA (a special concern to Canadian groups) involves jurisdictions who have yet to even attempt SIA. NGOs in the North American context are likely to have more expertise as well as more motivation and innovation in this subject.

NGOs have also established fairly extensive international networks on their issues of concern; these networks can be leveraged to create additional resources in finances, expertise and personnel that will add to the final product. In fact, these networks will form a critical part of the framework I am proposing.

It may be countered that what NGOs have in knowledge, motivation, commitment, innovation and networks, they lack in legislative mandates, authority and credibility, and technical expertise. I would like to take some time to counter those arguments.

Legislative Mandates: It is true that no body has formally entrusted SIA to non-governmental organisations. However, legislative bodies have been slow to pick up the ball, and someone has to collect the information and set the example in the meantime. Furthermore, governments and international institutions are in a bit of a conflict of interest, since they are both negotiating and evaluating the trade policies from which they hope to benefit. Objectivity will be an elusive goal until some formal mechanisms and independence are built into the SIA process. And finally, while governments were entrusted with EIA, it is important to remember that this was in an era of strong government. The idea of a strong role for government has since come under attack and it may be politically quite difficult if not impossible to add another task to their mandate.

It is possible that well before an NGO SIA is complete, government will have stepped up to bat and will be conducting one of their own that meets the basic criteria for a credible and successful process. This would be entirely desirable, and the NGO would not

have wasted time or effort, since the information they have gathered, the networks they have created and the results they have determined would be valuable input into any such process.

Authority: NGOs can not command participation, this is true. But in a well-designed process, this will be unnecessary; participation will be desirable. NGOs also cannot command the adoption of measures or a change in negotiating position. However, if the process is successful in creating positive alternatives that the public can stand behind, then the people themselves can demand that their democratically elected representatives adopt the measures they propose. (Certainly it is possible that the government will not pay attention to such demands, but it is at least no more questionable than government creating these measures and arguing for their adoption themselves.)

Technical expertise: It may be argued that since trade policies and agreements are technically complex, highly-trained economists are required to determine the actual impacts of the policies. However, it is an open question whether economists themselves are any better at predicting the impacts of such large-scale policies and teasing them out from baseline or status quo conditions. As UNEP stated, even these large teams of highly trained experts need to grossly simplify their models in order to arrive at conclusions in a meaningful time frame. The claim that technical expertise and training will lead to a more objective or complete product in this case may simply not be true; trade policies are too large and sweeping for any party, regardless of size or expertise, to create an entirely objective and complete product based only on quantitative data. Meaning, as UNEP decided in their own policy statement on integrated assessments, "inference and intuition" are just as important. Given this unavoidable state of affairs, NGOs may as well concentrate on the qualitative data and processes, participatory measures, and the "inference and intuition" of the people who will be directly affected by the policies.

Readers are probably aware that the World Wildlife Federation is undergoing their own SIA research project, which attempts to outline a high-quality SIA framework and apply it to several case studies. It is unfortunate that those case studies are still too young to have any reports made at this time; however, the criteria that the WWF developed for their framework will be applied to this one as well, although the frameworks themselves will not be identical. The WWF is a large-scale NGO with world-wide resources and contacts; this is not applicable to most NGOs and this framework attempts to be more flexible in a variety of situations and for a variety of actors.

Criteria

Sustainable Development has something of a bad reputation in the developed world: The wealth of developed nations makes it certain that truly sustainable development will involve a loss in their consumption and materialism. In societies that are largely founded on the capitalist concept that consumption is a positive good due to the economic growth it creates, less consumption is frightening. SD becomes associated with loss and sacrifice; it is hard to sell loss and sacrifice to a democratic population or their government. If SD is to be adopted in the West, it is critical that a more positive framework be found for the public debate. SIA may be one way to achieve this, by focusing on positive alternatives and concrete non-material improvements that can be made to people's lives.

Furthermore, it is important that more people and more stakeholders be brought into the process. Trade policies are technical and, to most people, boring. They are things hammered out behind closed doors between extremely wealthy and powerful institutions who speak a language not understood by most citizens. For as long as they continue to be created this way, most people will feel alienated and intimidated by them, not empowered or

motivated to become involved. And for as long as SIA is played out in the same manner by the same people with the same tools and language, SIA too will be the province of elites and those few other stakeholders who are committed to engaging on the issue. Greater participation by affected parties (who, really, are everyone) is essential.

Also, if NGOs are to conduct these processes, then it must not be resource intensive. NGOs are going through periods of retrenchment owing to budget cutbacks. They do not have banks of supercomputers who can calculate detailed models at lightning speeds; they do not have teams of economists or highly paid consultants; they may not have office space of their own. It is important to keep the process one that can be conducted by committed people with minimal expertise, finances and technological tools. Of course, where these exist they can be harnessed, but they must not be an essential part of the framework.

Keeping the process simple and not-resource-intensive will have the further benefit of making the process itself as well as its results easier to interpret by citizens, thus more likely to engage and empower them to be involved themselves.

I would also like to suggest that it is important to erase the imaginary boundaries between economic, social and environmental impacts; as if 99% of what human beings do does not belong to all three categories, and as if there are not far more categories also integral to human life and civilisation. When Mr. Jones goes out on Sunday morning to buy milk at the corner store, it has social, environmental and economic implications, and to try to slot his action or the impacts of it into one category or the other is absurd. This traditional separation has led to all sorts of unforeseen but disastrous complications, like the assumption that, since the economy is separate from culture and the environment, it can be handled separately; that the environment and culture somehow exist to serve the economy;

or that the economy is somehow not degraded by what degrades our natural and cultural environments, as if they were rice, beans and flour, kept in separate and clearly-labelled containers on a kitchen counter. When in reality it is more like pistil, stamen and petal. Despite the best intentions of our economists, it is probably not possible to integrate each and every external environmental and social cost of every product or process into the market price, and yet degradation of the physical or social environments will inevitably degrade our economies at some point. Whatever SIA framework is determined upon, it will be necessary for it to encourage that sort of integrative, holistic thinking.

Furthermore, trying to integrate social and environmental costs into market pricing has another perverse effect: It assumes that dollars are a universal language and mean the same thing to everyone. This is clearly ridiculous: ten dollars mean a very different thing to a farmer in Bangladesh than they do to a billionaire in America. If everything is compared in dollars and cents (especially between countries, but also within them) one might conclude that there was no net negative impact from a policy that took fifty cents each day from a woman in India and deposited it into a Canadian bank account. Or that an economic policy adding one dollar each day to the net income of everyone in a particular country has no effect on income inequality. Nothing could be further from the truth.

To conclude, the criteria applied to this process consist of: Positive alternatives to current development practices; increased and meaningful consultation; not resource intensive; integrative; and not using dollars or economics as a universal standard to interpret results.

Possibilities

There are dozens of ways to structure an SIA. The possibilities can be divided into two sorts: Conceptual frameworks (how to organise the SIA) and analytic methods (how to carry them out). Very few of them have been tested in relevant situations yet, so the applicability of the following discussion is more theoretical than real.

Conceptual Frameworks

"Three Pillars"

This is the traditional approach, where the "three pillars" consist of social, economic and environmental considerations. The impacts of a trade policy on all three are calculated by various relevant methodologies; sometimes interrelationships are examined but the basic concept is that trade policy affects the economy, which will then affect the physical and social environment. The impacts are generally calculated separately and then aggregated into an "integrated assessment" or SIA.

Sustainable Tests/Outcomes

Analytic Methods

What follows is only a small sample of possible analytic methods for use in SIA. Due to the space and time limitations for this paper, I was not able to consider or discuss all of them. However, these either came up frequently during the literature review or appeared to be most promising for an NGO SIA. Some of them are critical for any SIA, and some are optional, depending on goals and resources available.

Sustainability Indicators

Sustainability indicators are quantifiable and identifiable environmental, economic or social measurements that assist in determining whether sustainability is being achieved or not. For example, tree cover or animal populations might be used as environmental indicators; income might be used as an economic indicator; and income inequality or male/female income differentials might be used as social indicators.

While selecting indicators to establish baseline conditions and monitor progress and impacts after implementation is important, traditionally this has been done by selecting indicators for each "pillar" and, as discussed, this separation does not itself serve the cause of sustainable development. However, it is possible to select indicators that are reflective of more than one area of sustainability (discussed below).

Sectoral Analysis

Sectoral Analysis refers to selecting the sectors of an economy most likely to change as a result of a trade policy and evaluating the social, economic and environmental impacts of those changes. It is helpful in limiting the scope of an SIA since even in the smallest economy, a complete SIA of all impacts in all sectors is impossible. However, the downside to sectoral analysis is an inescapable focus on the economy and industry, as opposed to affected human and environmental communities.

Impact Matrices

Impact matrices have long been used in SIA. A matrix is laid out with activities along one side and possible impacts on the other; checkmarks or numbers are entered to indicate what sort of impacts are expected as a result of what sort of activities. It is an easily understood method of impact assessment, although it can oversimplify the interactions

between impacts as well as indirect links and impacts. A sample impact matrix has been included in Appendix C, although typically they will need to be customised for each SIA.

Alternative Scenarios

In EIA, it is expected that a proponent or analyst will develop alternative projects to compare against the impacts of the proposed project. This helps to identify best options instead of merely mitigating the worst effects of the original proposal. In SIA of trade policies as well, alternative negotiation scenarios can be developed to determine which is the best option, instead of identifying the impacts of the most likely option. When no alternative scenarios are identified, two mindsets can result: a) the proposed trade policy is somehow inevitable, and there is no point in considering alternative policies; and b) the best that can be hoped for is to create mitigative or "flanking" measures to address the worst of the impacts.

Backcasting

"Backcasting" is a method where a preferred end-state or outcome is decided upon, then the decisions and scenarios required to reach that outcome are determined, and a project or policy is devised to create those decisions and scenarios. While this process is not quantifiable or particularly analytical, it does focus attention on what needs to be achieved rather than what needs to be avoided, and can help to create positive alternatives and a discussion around Sustainable Development's contribution to human potential (as opposed to capitalism's focus on human acquisition).

Causal Chain Analysis

Causal chain analysis is a process whereby high-level or most probable impacts of a policy are determined; then the impacts of those impacts, and so on. The basic idea is to link the causes together into a chain of cause and effect.

Sustainable Livelihoods

The Sustainable Livelihoods approach assesses interventions on the basis of their impact on poverty. It determines the coping strategies the poor currently use and attempts to enhance these coping strategies to build capacity, rather than providing charity. The focus of this approach is on a community, rather than an economic activity or sector.

While this approach would not be appropriate for an entire SIA, it has definite potential for use within an SIA to determine social, economic and some environmental impacts (insofar as poverty has impacts on the environment).

Models

Models are simplified descriptions of how some aspect of the world works, intended to take input representing some theoretical initial state, and output what the end-state would be given those initial conditions.

Experts like models. They give an air of objectivity and quantitative reality that makes the results appear unassailable. Of course, this is nonsense. Models are neither objective nor wholly quantitative. Models are based on the assumptions that human beings make about how the world works. In the case of SIA, many models were based on the assumption that trade liberalisation is good and provides net benefits (a highly questionable assertion). Furthermore, while the numbers plugged in to the model may have come from

somewhere "real," the predictions about how those numbers will interact in the model are also based on the opinions of people (albeit highly educated ones).

Even in scientific fields like meteorology, models have acknowledged drawbacks. They are better at predicting short-term than long-term outcomes (weather forecasts seldom go more than five days into the future because the models are incapable of accurately predicting weather that far out). They need interpretation by trained meteorologists, who frequently override the model's output based on their own experience with local weather patterns. And these models are based on well-proven knowledge in atmospheric physics; economic models suffer from the additional shortcoming of not really being a quantitative science. Economics depends on the daily decisions of 6 billion individuals. As much as one can generalise from such a large population, human beings are still not as predictable as raindrops or molecules.

For these reasons, I suggest that the usefulness of models in SIA is limited. It is possible to use a simplified model when analysing the impacts of a trade policy on a particular community, but care should be taken to ensure the model is simple enough to be understood and used by as many people as possible. Obfuscation and technocracy are to avoided as much as possible.

Framework

This framework has been designed to meet all of the above criteria. I have attempted to maximise its flexibility so it can be used by a variety of actors in a variety of situations.

It is important to understand that each subsequent step, after determining the baseline, can and probably will feed back into an earlier step in an ongoing refinement of the original problem statement and scoping exercise (please see figure x). Not one of these steps

is something that can be done once, finished, and then passed by. Each, once begun, will continue until the project as a whole is complete.

Establish the Baseline

In order to predict and then determine whether a particular policy is aiding or hindering sustainable development, it is crucial to know where you are starting from. Baseline conditions of existing levels of sustainability must be determined, from which predictions and forecasts can be made and movement can be measured in the future.

In order to integrate environmental, social and economic considerations, as well as moving beyond those three into the broader realm of human experience, it is necessary to select measures of the baseline carefully and to examine their full import. Measures chosen must reflect at least economic, social and environmental considerations, wherever possible; where it is possible to choose a measure that indicates more, that is better. For instance, measures of low income are both economic and social, and tend to indicate environmental as well (in that those lower on the income scale differ in the scale and pattern of their consumption). Where a strict count of dollars differing between rich and poor may be seen as economic, measuring the patterns of consumption of necessary goods (food, housing, health care, education) will say more about what is important for income equality, as well as the social and environmental health of that society.

Census data is useful and worthwhile for establishing social and economic baseline data. Police and security agencies can report on levels and nature of crime. Government agencies may have valuable baseline data on endangered species, tree cover, air quality, and other environmental conditions, as may non-governmental organisations (depending on their size and mandate). It has been argued that democracy and accountability are important

concerns for political sustainability; these could be determined through measures of political participation such as voting, party membership, number of political parties or some other combination of political choice factors. Indicators will need to be selected with the community and nature of the changes in mind; this is not intended to be an extensive list.

Scope the SIA

Scoping is the process which draws the boundaries of the SIA, determining what will be considered and what will not. In this framework, this stage will depend almost entirely upon "inference and intuition," with very little research or study. It is essentially a brainstorming stage. Several important questions need to be answered during the scoping exercise:

1. Which industries are likely to experience the greatest change from this trade policy?
2. What populations or communities are most likely to be affected, either positively or negatively, by these changes? (It is important to note that this can be defined narrowly or broadly, as well as in a geographical, cultural, economic or social sense; i.e. one could define "women" as a population, or "women in nursing," "women in Brampton," "women 18-25 with low incomes," "recent female immigrants," and so on.)
3. What criteria of sustainability are we going to measure our alternatives against?
4. What sustainability indicators will we use?
5. What criteria and thresholds will we use to determine the significance of impacts?
6. What sort of impacts seem most likely?

You may notice that there is little here of a traditional economic impact assessment. This is quite purposeful. The focus of this SIA framework is on people, not dollars; it may be that the fishing industry, for instance, will experience particular impacts, but in that case

the focus would be on the people who work in that industry and form that community rather than on the fishing industry itself. Instead of defining the economy and sector as central to the analysis, the people are placed on the centre and the economic activity is peripheral to them.

Consultation and Participation

Considering the answer to question number two, above, will inform the consultation and participation process. The central agency or organisation carrying out the SIA would devise some means of reaching out to affected populations wherever possible, and inviting them to participate in whatever way they are able. If a group finds itself unable but deeply interested, then the organising group would strive to find a way to increase its capacity (methods of doing so are outside the bounds of this paper, but there is a wide literature on the subject).

The means of invitation will depend on the nature of the group identified. Some will be easier than others. For instance, women with low incomes could be reached through service agencies that attempt to meet their needs. Women in nursing could be reached through unions or professional organisations. Recent female immigrants could be reached through organisations or networking in particular neighbourhoods. Women in Brampton could be reached through their local political representatives. And so on.

The nature of the invitation also will depend on the situation and the group, but the essence of it would be that they have been identified as a population likely to experience a particular impact as a result of this trade policy; that the central organisation is attempting to create alternatives that will make for positive as opposed to negative impacts; and that their co-operation is highly desired to ensure that the measures devised will actually assist them

and that the analysis is accurate as to impacts. Not all groups will be able or willing to participate, and this cannot be helped; but at least those who would be interested are given a direct and honest means of doing so, and in a way that will capitalise on their best knowledge and experience.

Ideally, each contacted group that chooses to participate will contribute their knowledge and experience to the assessment of impacts as well as the identification of more affected groups, feeding both forward into the SIA and backward into a refinement of the scoping exercise. In this way the project itself becomes a kind of model, a living causal chain analysis where each actual link identifies the next link.

To the greatest extent possible, potential participants should feel free to participate in whatever method is best suited to them. Some may only wish to be advised of the progress of the project, perhaps through ongoing newsletters. Others may wish to provide input into a SIA that is still primarily conducted by other agencies. Still more may wish to be more involved, by framing and conducting a SIA for their particular community. The hope is that by keeping this participation as flexible and open-ended as circumstances permit, participation may be maximised as stakeholders feel there is a forum for whatever information they possess to be heard and used.

The WWF, as part of their SIA project, has identified several criteria for multi-stakeholder processes. I have listed and commented upon their place in this framework:

1. *Objectives: The broad goals of the process should be clearly established at the outset.*

   Unfortunately, one of the aims for the framework outlined here is maximum flexibility, allowing participants and stakeholders largely to define their own goals. It would not be appropriate for the organising group to select goals for participants, or outline the nature of their participation; although in a larger

NGO SIA or an institutional or government process, this may indeed be desirable.

2. *Timing: The views of stakeholders should be sought in the earliest stages, and at key milestones thereafter.* Stakeholders will indeed be contacted as early as they are identified, and their views and participation sought immediately.
3. *Participation: A multistakeholder process should include all groups with an interest in the proposed trade/investment policy or agreement.* "All groups with an interest" could be defined very broadly; indeed, for large trade agreements, it could be the entire population of planet earth. Certainly, any affected groups or communities will (or should) be identified during the scoping exercise and then invited to participate.
4. *Information: Quality information should be made available to stakeholders in a timely manner throughout the process, promoting effective and consistent participation.* All stakeholders in the framework I laid out here are to be considered as equal participants, regardless of how they are limited by resources or distance or any other factor. Each is to contribute what they are able at any point. This includes information, each group sharing with the others their knowledge and progress at each significant (to be determined on a case-by-case basis).
5. *Process for participation: Stakeholders should be provided with a range of input options to encourage effective participation.* This has been addressed in the framework.
6. *Outcomes: It is essential that participants receive feedback from consultations and that any decisions taken during and following the process be disseminated widely.* Since participants themselves take a role in conducting the SIA, this is less of a concern. Specific communication roles and responsibilities would have to be determined on a case-by-case basis for each SIA.

Design the SIA Methodology

The step is in the middle of the process because the methodology selected will depend on the scope of the exercise, the number of participants and their potential contributions, and the resources available to them. A methodology appropriate for each SIA cannot be determined until these other steps are complete.

There are three main stages to this process: Selecting appropriate sustainability indicators; defining impacts of interest (by community and type); and selecting the assessment or analytical methodologies most suited for those indicators and impacts.

Indicators: Indicators are quantifiable or measurable aspects of a physical or social community or society that will reflect, in the case of SIA, either gains or losses in the journey towards sustainability. Traditionally, indicators are chosen that will reflect the three pillars of Sustainable Development (economic, social and environmental); thus population numbers for sensitive species might be chosen to reflect biophysical impacts, real income might be chosen to reflect economic impacts, and income inequality measures might be chosen to reflect social impacts. However, as discussed above, the lines between these three fields blurs more often than not, and it is not difficult to see how these indicators might cross the boundaries. This should be encouraged by selecting, wherever possible, indicators that have the potential to indicate something about more than one area of sustainability. Examples might include income measures for the bottom 10% and top 10% of income earners, resource stocks for sensitive and economically important industries, population changes (too much migration either in or out could spell economic and social trouble, and perhaps environmental as well), health and longevity measures (which are economically as well as socially important and may reflect environmental conditions), and so on.

Besides maintaining wide applicability and flexibility, indicators should be carefully chosen to reflect the issues and impacts of concern identified in the scoping exercise. If impacts to the logging industry are expected, then trees are probably important, as may be the number of jobs in a local logging industry, the income provided by working in the local logging industry, measures of productivity, efficiency, or the adoption of environmentally-friendly logging practices.

Impacts: It may seem backward to determine the impacts of a policy before you have chosen the methodology to measure those impacts. But this is not the case: Precise measures of the impacts are not required at this stage, only a broad idea of what the impacts might be and in which communities (human and other). This is an informed brainstorming exercise. Previous work with stakeholders and in the scoping exercise should have narrowed down (or perhaps broadened) the initial conception of impacts. These now need to be formally documented so that appropriate analytical methods can be selected.

You may have noticed that I continually talk about the impacts on communities, when most of the SIA literature talks about sectors. This is quite conscious. Impacts don't happen to sectors; they happen because of them, and focusing on the sectors permits a detached objectivity that I feel is contrary to the spirit and potential of SIA. Communities will feel impacts. Focusing on the human or biophysical communities who will experience the impacts imposed by economic sectors both encourages holistic thinking (breaking down the economic/environmental/social split) and allows for a more compassionate analysis by reminding us that these are people or living things who will be dealing with these impacts, not aggregated statistics or profit/loss statements.

Analytic Methodologies: Once the organising group has some idea of what impacts they expect to find, they can go about looking for them. They will do this by selecting

analytic methodologies that are appropriate for determining and measuring those specific impacts.

Examples of analytic methodologies are listed above. This is not a comprehensive list, and I am not an expert in any one of them; especially for the selection of highly technical methods requiring certain kinds of expertise (eg. Economic modelling) I would suggest consulting the literature on the subject or finding an experienced practitioner when the time comes to design any particular SIA.

However, as stated above, this process is designed to be flexible and appropriate for use by a wide range of actors with a wide range of abilities and resources. Thus, technical modelling and forecasting are not really preferred. At the very least, I would strongly recommend saving the use of modelling for small-scale impact studies on particular communities. In this way, the models themselves will be smaller, easier to comprehend, easier for non-technical audiences to comment on and less likely to intimidate them, as well as far more likely to be accurate.

As I discussed above, even in scientific fields where well-known scientific models not involving autonomous actors with free will, models are of limited applicability and use. Large-scale models are notorious for not being able to provide detailed small-scale information for particular communities, and the longer the time horizon is, the more the inaccuracies and uncertainties multiply. Models provide a largely false sense of security and confidence. They seek to generalise the impacts of tariff reduction on the logging industry in general; but it may be better and easier to approach stakeholders and ask them, "If the export price of lumber decreases by 50%, what happens to your sawmill?" You will get a wide range of answers and some of them will be incorrect, but it will still provide the range

of possibilities and allow for an analysis of all likely outcomes (as well as devising alternatives; to be discussed in the next sections).

Small actors with limited resources may wish to focus on more qualitative methods such as case studies, which can be designed for particular locations and communities with far more flexibility. Interviews, surveys, impact matrices, and backcasting are other possibilities.

The questions of accuracy and predictability come up over and over again in the SIA literature. There seems to be a persistent idea that, to be worthwhile, SIAs should work like chocolate chip cookies: If you put in all the right ingredients at the right time, then you know exactly what will come out of the oven. This is not and never can be true, even if the very most analytical and quantitative methods are used.

Any process that aims to predict with certainty exactly what will happen in human economic and social affairs as well as what will happen in the biological environment as a result of a particular trade policy is certain to fail. The system is too large and complex—it is the whole world.

But just because SIA can't function like a crystal ball doesn't mean it has no value. However, its value does not lie in making absolutely certain predictions about results. Its value lies in making suggestions, highlighting possibilities and solutions.

To return to the weather analogy, no atmospheric model can tell you what the temperature will be on June 8, 2007 in Sudbury, Ontario. It may not even be completely accurate about the weather in your hometown tomorrow. But if the forecast predicts a 60% chance of rain tomorrow, I bet you'll bring your umbrella—even though 60% is far short of certainty.

Carry It Out

Now is when the SIA starts.

Ideally, through the consultation process, there will be more than one actor investigating more than one community. Methods, indicators and impacts may be the same, or different, depending on the scale of those stakeholders. Regardless of their similarity and difference, information sharing will be crucial. Assumptions, data, models, results, interviews, case studies, and any other information gathered or analysed should be shared among all actors in order to cross-check assumptions, processes and results.

Since SIA is not an exact science, not all areas of disagreement need to be resolved, but they should be explored and explained, whenever possible. Again, because SIA in this framework is only trying to present a range of possible outcomes, and not THE outcome, differences in assumptions or results should not be considered a fatal flaw.

Create Alternative Proposals

This is the true heart of the whole exercise: Using the possible outcomes to design possible strategies for dealing with them.

Potential positive impacts, of course, will be enhanced wherever possible. What happens to potential negative impacts is less clear. Ideally, they would be completely eliminated; but this may not always be possible. Or positive impacts in one sphere may mean negative impacts in another (I am sure this will raise hackles, and I have visions of readers imagining being asked to trade social housing for economic gain; but trade-offs can just as easily be made in the opposite direction and it is the concept of making trade-offs I think is important to discuss).

Win-win solutions are best, of course, and an effort should be made to uncover and use them whenever possible. However, in many instances it will not be. It is hard to imagine, for instance, a sustainable world where no one need ever be asked to sacrifice their present levels of wealth or consumption. The trick will be to find solutions of minimum loss for maximum gain. This is a project well beyond the scope of this study, and one that likely has been well explored elsewhere.

The important thing is to use this stage of the process to brainstorm and create those alternatives. It is not enough to create a few alternatives at the beginning of the process to evaluate alongside the trade policy for comparison purposes. In order to make a positive contribution, new and innovative solutions must be presented as an outcome of the SIA.

This is easier said than done. Creating alternative proposals to actual physical projects undergoing EA is one thing: There is always another technology, another site, another scale, another product. But it is hard to discover the grey areas in "no tariffs allowed." However, going through this process will hopefully trigger some ideas. For example, backcasting will allow identification of what is needed to achieve sustainable development, instead of listing the impacts of what is proposed.

Final Product

As said earlier, the preceding steps may not have taken place in such a neat and tidy manner as they were presented here. New contacts may have new ideas for the scope of the project. Considering impacts and methodology may suggest new communities. Undertaking the analysis may suggest new impacts, new communities, or may highlight the inadequacy of the method chosen. At any point, it is possible for a group to return to an earlier stage in the process and further refine or expand the SIA, as required.

However, at some point a conclusion must be reached, if only because the trade ministers are sitting at a table, ballpoint pen in hand, about to sign their names to a new trade deal. At this point, the process will hopefully have produced the following:

1. An analysis of the impacts and the affected communities;
2. A well-developed network of allies and stakeholders from a wide range of populations and communities; and,
3. Positive alternatives to the proposed policy that can be presented to the public.

Criticism will remain as important as ever, but as long as criticism of policies is the primary message, it will not be difficult for pro-liberalisation actors to portray pro-sustainability actors as negative, or for them to discuss sustainability in terms of loss and sacrifice.

Next Steps

Appendix A

In August of 2002, Christine Elwell, working for CIELAP, produced a report summarising the current state of SIA, its strengths and weaknesses, and required next steps to advance the concept. Following are the conclusions from that report considered relevant to this project, and the ways in which they have been incorporated.

1. *Assess regulatory capacity effects*: The impacts of a trade liberalisation policy on the ability of countries to regulate their own affairs and to continue setting rigorous standards are fairly well documented, if highly contested. One of the desired effects of moving from a three-pillars approach to sustainability to a more integrated, broader definition is the ability to consider and assess a wider range of impacts, including regulatory. And of course, whenever this is of particular concern to a stakeholder, they can make it an explicit part of their analytic methodology.
2. *Avoid a pro-trade bias*: I do not think that "trade" is necessarily the issue—I don't believe that environmentalists are less likely to desire trade in concept. However, the conditions under which trade takes place are very important. In recent years, "trade" has come to mean a certain kind of completely liberalised, non-regulated free trade which is often quite destructive in human and environmental terms. SIAs must absolutely refrain from building in any assumptions as to the positive or negative worth of trade liberalisation or deregulation. Both must be avoided in order to maintain the credibility and worth of the final product.

3. *Ensure equal treatment for all components of sustainability*: Again, by moving away from a three-pillars approach to a sustainable communities approach, less tangible and quantifiable aspects of sustainability ought to be able to get a fair shake.
4. *Address scale and causal effects*: It is indeed ironic that while the rising level of consumption is touted as one of trade liberalisation's main benefits ("a rising tide lifts all boats" etc.), the impacts of this overall rising level of consumption are not explicitly considered in SIA. Of course, they ought to be, and this is a criteria that can be worked into the sort of SIA outlined in this report.
5. *Choose a meaningful baseline*: What is "meaningful" is going to depend on the scale and nature of the SIA and the community being assessed; however, in the back-and-forth model outlined here, I hope that the baseline will be continually refined as the project goes forward so as to make the information as relevant and worthwhile as possible.
6. *Define significance, rely on prevention and precaution*: By encouraging communities (or those intimately involved with them) to design and carry out their own SIA as much as possible, criteria of significance to that community ought to be incorporated fairly easily. Also, because the stakeholders most likely to be affected are those most involved in the SIA, concepts of prevention and precaution will probably be integrated into the process right from the beginning. Of course, this can always be specified by the organising group where there is any doubt.
7. *Build various scenarios*: By having multiple groups looking at the same "sector," each from the perspective of their own community, you are almost certain to see various scenarios associated with a particular trade policy. Furthermore, at least

three initial alternatives (the proposed policy, Do-Nothing and some intermediate route) are evaluated from the beginning, with additional alternatives added as analysers create them during the SIA process.

8. *Choose robust sustainability indicators*: Indicators will be selected by each stakeholder prior to the SIA. The indicators will only be selected after some initial brainstorming or theorising about likely impacts has taken place, and stakeholders will be encouraged to select indicators that will reflect on more than one area of sustainability (economic, social, environmental, political, etc.) in order to encourage a more integrated viewpoint.
9. *Avoid after-the-fact mitigation measures*: Sometimes, of course, they cannot be avoided (except by avoiding the trade policy altogether). However, by encouraging participants to create or identify positive alternatives as they assess the policy, the best possible methods for dealing with potential negative impacts will hopefully be identified on an ongoing basis.
10. *Make trade compatible with other values*: In this analysis, trade is really not considered as a value at all. The affected communities are handed the ball for determining what their values are, and what is an acceptable or unacceptable impact.
11. *National flaking measures are not enough*: See #9 above.
12. *Retain national capacity to build on international standards*: This is one of the only criteria that cannot be addressed by this framework. Since its focus is on NGOs, and only national bodies can fight for national rights, this process can only identify weaknesses and suggest solutions, not enforce them.
13. *Be prepared to abandon the trade policy*: Similarly to #12, NGOs may be very willing to abandon the policy, but they will not be making the final decision.

14. *Take into account the very long term*: While the exact nature of the SIA analysis will be determined by the participants, this criteria can be built into the scoping exercise of the organising group right from the beginning.
15. *Provide sensitivity analysis for developing countries*: Communities in developing and least-developed countries may be invited to participate in the same manner that any domestic community may. Since the framework attempts to be flexible and adaptable to a wide range of groups with a wide range of resources, it is hoped that barriers preventing less-developed nations from participating would be minimised. Some barriers may still remain, and the extent to which they can be overcome will depend on the resources of the organising agency or other stakeholders involved in the process.
16. *Avoid environmental injustice*: By identifying affected communities and having them conduct the SIA for that community, or at the very least be heavily involved in the analysis, issues of environmental injustice ought to be identified for resolution early on in the process.
17. *Consider regional and global impacts*: The consideration of global impacts can be built into the scoping exercise.
18. *Measure progress and test evidence*: As this would take place after the SIA is complete and the trade agreement has been implemented, it is outside the scope of this report.
19. *Achieving sustainability is more than just avoiding impacts*: I have tried to address this concern by focusing on the creation of positive alternatives that help us to achieve sustainability, instead of working to avoid the worst sorts of unsustainability.

Appendix B

One alternative to the three-pillars approach was outlined by Robert Gibson in his report entitled, "Specifications of sustainability-based environmental assessment decision criteria and implications for determining 'significance' in environmental assessment". He lists several principles for consideration in sustainability assessments, as follows:

1. Integrity: Build human-ecological relations to maintain the integrity of biophysical systems in order to maintain the irreplaceable life support functions upon which human well-being depends.
2. Sufficiency and opportunity: Ensure that everyone has enough for a decent life and that everyone has opportunities to seek improvement in ways that do not compromise future generations' possibilities for sufficiency and opportunity.
3. Equity: Ensure that sufficiency and effective choices for all are pursued in ways that reduce dangerous gaps in sufficiency and opportunity (and health, security, social recognition, political influence, etc.) between the rich and poor.
4. Efficiency: Reduce overall material and energy demands and other stresses on socio-ecological systems.
5. Democracy and civility: Build our capacity to apply sustainability principles through a better informed and better integrated package of administrative, market, customary and personal decision making practices.
6. Precaution: Respect uncertainty, avoid even poorly understood risks of serious or irreversible damage to the foundations for sustainability, design for surprise and manage for adaptation.

7. Immediate and long term integration: Apply all principles of sustainability at once, seeking mutually supportive benefits.

The use of such principles has a few distinct advantages over the three-pillars approach: a) it refocuses our attention from the negative impacts we wish to avoid to the positive conditions we hope to achieve, and b) it helps us to integrate our considerations of economic, environmental and social impacts and benefits.

Such principles could be used as a set of questions to apply to predicted policies, solutions and impacts; the more questions adequately satisfied, the more sustainable the area or policy. There are a number of ways this could be accomplished:

1. Indicators could be chosen to represent each of the seven principles, and then impacts could be assessed against those indicators in a traditional fashion;
2. The principles could be added to an impact matrix;
3. They could be used to assist in brainstorming during the initial scoping exercise, or later when the analytical methodology is being selected;
4. A group could use them to ensure that the analytical methodologies selected are adequate by ensuring that each area or principle will be addressed;
5. As an alternative to the three-pillars approach, mini-assessments could be conducted on each principle (that is, the impacts of a particular policy could be assessed for integration, precaution, democracy, equity, etc., instead of economy, environment, and social).

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