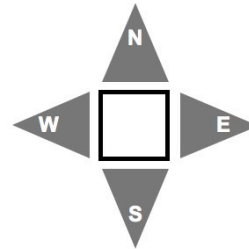
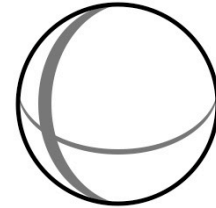


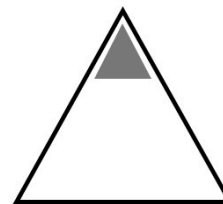
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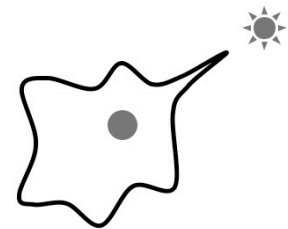
COMPASS



STRATESPHERE



PYRAMID



AMOEBIA

Using the Accelerator Tools for
Strategic Sustainable Development:
An Overview of Theory
and Practice

Written and Developed by

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ISIS Accelerator Manuals

Purchasing a license to ISIS Accelerator grants you access to the following manuals, referenced in this Guidebook, as well as document templates, worksheets, and presentations.

- Accelerator Manual: Executive Introduction to Sustainability
- Accelerator Manual: Compass
- Accelerator Manual: Pyramid
- Accelerator Manual: Amoeba
- Accelerator Manual: StrateSphere
- Accelerator Manual: ISIS Management Matrix

Preface

The AtKisson *ISIS Accelerator* suite of tools for working with sustainable development is the product of nearly twenty years of development and practice, in many different countries, cultures, and types of organizations, around the world.

This Guidebook provides you with a theoretical and practical overview of the tools -- what they are, how they work, how to use them -- as well as the *ISIS Method* that ties them all together. It is meant as a general introduction to the *ISIS Accelerator* manuals themselves.

Each core element in the *ISIS Accelerator* suite -- *Compass*, *Pyramid*, *Amoeba*, *StrateSphere* -- is actually an entire toolkit in itself, a family of methods and processes, documents and presentation slides, that can be adapted to a very wide variety of situations. The *Guidebook* gives you the foundation you need to understand the whole set, and to know how to put different tools together to meet specific needs and to achieve specific goals.

The purpose of the *ISIS Accelerator* is obvious: to speed up the process of doing sustainability work, by providing proven methods for bringing people together, building common understanding and commitment, and taking effective and innovative action to change problematic systems, or to create good ones. Our world is literally in a race against time, and the aim of *Accelerator* is to help us win that race.

When you acquire a license to *ISIS Accelerator*, you gain access to the specific manuals for each of the tools, and to the supporting materials that go along with them. The tools are designed so that anyone with good, basic skills -- in group facilitation and training, project management, and basic data analysis -- can start putting them to work immediately. But sustainability work is about systems, and systems are complex by nature. Training helps. AtKisson Group has a network of accredited trainers and consultants around the world who can help you build both the basic competences you need to use the tools, and your skill at using the tools themselves. (See www.AtKisson.com for more information on both licensing and training.)

The Context: Working for Sustainability

If you are looking at this Guidebook, then you are probably familiar with the word "Sustainability", and with its cousin, "Sustainable Development." (Clear definitions appear later in this document.)

If you are trying to advance sustainability goals, if you are trying to do sustainable development, then you are also familiar with the difficult challenges often involved in creating real sustainability in the real world.

These challenges include:

- Understanding what is actually happening to the world around us -- on topics ranging from global climate change to local community health -- and what the future holds if current trends continue
- Building capacity for systems thinking, so that we can understand why these things are happening, and how they influence, and are influenced by, each other
- Using that systems-thinking capacity to integrate our care of nature, economic development, social health, and human wellbeing (instead of watching these different aspects work against each other or compete with each other)
- Figuring out what changes need to be made so that economic and social development can continue, but without drawing down the world's environmental capital or putting human health and wellbeing at risk
- Actually making change happen, at a significant scale, in government, business, community, education, etc.
- Creating capacity for inter-disciplinary, inter-sectoral collaboration and consensus development -- often in charged or polarized atmospheres -- so that change can be successfully implemented

Sustainable development *in practice* involves the enormous challenge of trying to create more sustainable economies, communities, organizations, and natural ecosystems. The nature/economy relationship is particularly problematic, as climate change and disappearing species attest. But the human challenge of meeting the needs and aspirations of up to nine billion people are equally vital, and difficult. Everything must be worked on at the same time, and quickly, if we are to create a world that can keep going for generations without suffering multiple collapses and disruptions.

The *ISIS Accelerator* is a set of tools for making that kind of sustainable development more possible.

"ISIS": Myth and Methodology

"ISIS" is an acronym, and it means "Indicators > Systems > Innovation > Strategy." The arrows indicate a sequential process, as explained later in this Guidebook. ISIS is a well-proven and robust methodology, and every tool in Accelerator relates to, or incorporates, the ISIS Method in some way.

But Isis is also the name for the mythological goddess of ancient Egypt. One of the central stories about that goddess is worth reflecting on. The myth is retold as the prologue to *The ISIS Agreement* (by Alan AtKisson, Earthscan, 2008). In brief, Isis's husband Osiris was murdered by his evil brother Seth. Seth then spread pieces of Osiris all over Egypt. Isis was forced to go under cover, in various disguises, to find the parts of Osiris and reassemble them. After some years, she managed to bring her husband back to life, whole, for one night.

During that night she conceived a "golden child," named Horus. Horus is the famous eagle-headed god of Egypt, wise and far-seeing.

Sustainable development is about the reintegration of a world that is all too often "torn apart" into disconnected pieces. The *ISIS Accelerator* tools are also designed to help us find and reassemble those pieces, understand how they work together, and ensure that the "next generation" of solutions to our energy, food, economic development, and other demands is wiser and more far-seeing than the ones we are currently having to change. As change agents, we must often go "under cover," to work in other systems, to find and fix critical problems. The story of Isis is a very good metaphor for the challenge of these times.

What Accelerator Does ... and Does Not Do

The *ISIS Accelerator* is many things, but it is important to know what it is *not*: it is not an information guide on creating specific projects in energy, conservation, economic development, waste, or any other specific topic. *ISIS Accelerator* will not teach you how to install solar panels, or how to implement standards and programs for the elimination of child labor. Nor is *ISIS Accelerator* a fancy computer program. These things obviously relate to the *ISIS Accelerator*, and there are many other tools, methods, and programs that can support your work on things like indicator development. But those are different tools, and different processes.

What *ISIS Accelerator* is: A set of *generally* applicable concepts, tools, processes, and methods for teaching and learning sustainability, for assessing sustainability, for creating sustainable development plans, for helping people work together across disciplines and cultures, for speeding up innovation processes, and several things besides. In our experience, these tools and ideas can be used in virtually any kind of community, organization, or initiative, to focus and indeed speed up the process of finding and implementing change of all kinds, from technical solutions to new underlying values systems.

Using these tools skillfully and successfully will result in better understanding, clearer decisions, a stronger consensus, more well-developed plans, more effective strategies and implementation programs, better measures of progress ... and thus, a great deal of real and specific change to make our world more sustainable.

Most importantly, using these tools will result in the development of more effective "sustainability change agents" -- people like you, working to make the world a better place, for both current and future generations.

As in carpentry, the tools do not do the work. People do the work. Both practitioners, and the people they serve, lead, or hope to influence.

We use the word "practitioner" because we look at doing sustainable development as a practice. Sustainable development is complex. The term is a relatively new invention. So our level of skill and knowledge will never be "perfect". Like doctors, we are always "practicing" ... we are never finished learning ... and we must learn by doing.

So ... this *Guidebook* is meant more for doing than for reading. It doesn't matter whether you use these tools in a global initiative, a city, or in your own life. The important thing is to use them. To practice with them.

And to teach others to use them as well. Sustainability needs all the "change agents" it can get. And after that ... just keep going. You'll learn best by doing.

Acknowledgments

While I personally led the development of each tool, many other people have contributed enormously. Lee Hatcher, a longtime Senior Associate of the AtKisson Group (and close friend), was especially instrumental in the development of Compass and Pyramid, and also put some of the tools in StrateSphere to their first client tests. The idea for Pyramid came partly from Sydney Green, as well, and the tool exists thanks largely to her initiative. Amoeba owes its origin to dialogues with Robert Gilman and Duane Fickeisen, former colleagues at *In Context* magazine. Other associates and colleagues, past and present, have also contributed additions, improvements, and adaptations. Virtually all associates of the AtKisson Group have made some kind of contribution to the development of these tools ... and the process continues.

But equal acknowledgment must also go to a different set of "associates" to the AtKisson Group: that is, our clients. We have always seen our clients as partners in the process of creating change for sustainability, and in the development of our methods for working with them. Sometimes they have agreed to let us try a new method on them; and sometimes they have even asked us to do something that we did not yet know how to do. They trusted us to learn, and the result was often a new workshop process or evaluation technique. Our clients have supported our creativity and given us a chance to express our passion to make positive change, in the most tangible ways possible: by hiring us, and inviting us to intervene in their systems. For this trust and partnership, we are extremely grateful.

Finally, special thanks go to Kristina AtKisson for her support as my life partner as I traveled around the world to work with *Accelerator*, and more recently for her professional work on updating and streamlining the *Accelerator* tools for this new Version 2.0.

Alan AtKisson
Stockholm, Sweden
First created 2005
Updated and revised January 2009

The ISIS Academy

This Guidebook, in addition to serving as an overview for *ISIS Accelerator* licensees, is also intended for use by participants in the AtKisson Group's *ISIS Academy* training workshops, around the world.

For information on our three-day professional development "Intensives," our five-day "Master Classes," and our other training and presentation offerings -- ranging from half-day workshops to three-week advanced courses for professionals -- please visit www.AtKisson.com.

Note that this guidebook should not be used in other training programs that are not licensed or accredited by the AtKisson Group, and that such unauthorized use is in violation of international copyright law. Please see the next sections on Licensing and Accreditation, Certification and Affiliation, for more information.

Licensing and Accreditation

The tools in the *ISIS Accelerator* are protected by international copyright and should not be copied or distributed without the express permission of AtKisson, Inc. The following describes the general terms of our Licensing and Accreditation program. To purchase a license, please visit the website at www.AtKisson.com.

Licensing

Permission to use *ISIS Accelerator* is granted in the form of a *license*. Just as you agree to the terms of a license when you purchase a piece of software, the tools in the *ISIS Accelerator* are similarly protected, and distribution is by license only.

You may acquire a license -- for personal, professional, or institutional use -- via our website, www.AtKisson.com, or by attending one of our ISIS Academy training intensives. Note that a license entitles you to use *ISIS Accelerator* in your own work, or within your organization, but not to copy it, resell it, or to market professional services under the AtKisson, ISIS Academy, or ISIS Accelerator brand names. Only accredited members of the AtKisson Group network may market training and consulting services using those brand names.

Licenses are frequently granted for reduced cost, or without cost, to qualifying organizations, especially in developing countries. Our principal commitment is to supporting the accelerated spread of sustainability competency and action worldwide. If the cost of acquiring a license for *ISIS Accelerator* is an obstacle to you, please write to us to explain your circumstances and to see if you qualify for a discount or waiver of the licensing fee.

Accreditation

Being *Accredited* by AtKisson means that a person or organization is a member in good standing of the AtKisson Group, with all the rights and obligations that are involved in membership. Members of the AtKisson Group include Independent Associates, and Organizational Affiliates. Independent Associates are subcontractors to AtKisson, Inc. or its subsidiaries. Organizational Affiliates have a signed organizational licensing or affiliate agreement with AtKisson. Accredited persons and organizations are automatically licensed to use Accelerator, and are certified as competent in that use (see more on certification below). Accreditation also includes access to the ISIS Academy training materials, AtKisson's online services, use of the brand names for marketing, and other benefits.

Certification and Affiliation

Professionals and organizations may become *certified* as competent to use the *ISIS Accelerator* as recognized by AtKisson, Inc. Generally, certification is the result of attendance at an ISIS Academy workshop. Once certified, organizations may also be eligible to join the AtKisson Group network as an *Independent Associate* or *Affiliate*, authorized to use the AtKisson, ISIS Academy, and ISIS Accelerator brand names and to offer authorized consulting and training services.

For more information on our Independent Associate and Organizational Affiliate programs, please contact us.

The Story of Accelerator

The tools in *Accelerator* have been under continuous development since 1990. Each tool has a story behind it. In some cases, the tool was created to meet a specific client need, or to respond to an invitation to deliver a workshop. Repeated use of the tool in other situations, and often in different parts of the world, provided the opportunity to polish and refine it over time.

Some tools were created because members of the AtKisson Group saw a need, and created a tool to fill that need. Such tools were then tested with volunteer groups, and/or reviewed by colleagues and experts in the field, until they were ready for professional use. Then we found clients who were interested in using them, and the tools were further tested and polished.

Every tool in the Accelerator has been used intensively in professional settings, and proven itself effective, to our satisfaction. This does not mean that the tools are perfect, or that they are guaranteed to work for you, or that we are finished working on them. It *does* mean that we are confident that they *work*, when used properly and skillfully.

The spread of the tools to other parts of the world, through our own international practice and through our network of licensed affiliates, sometimes resulted in their developing into different versions -- for example, a German version of *Pyramid*, or Indonesian scenarios for the simulation game portion of *Amoeba*. Tools were adapted and modified to fit specific groups, cultures, and circumstances. Through that process, we learned that they were *adaptable*, and that the process of adapting them was critical to their success. We encourage all licensed users to adapt the tools, to change or modify them somewhat, as you believe necessary to meet your strategic objectives. And we ask that you share what you learn with the AtKisson Group, so that we can share it with other users around the world.

ISIS Accelerator became a formal "suite of tools" with a licensing and certification program in 2002. As of 2009, there were certified users in Japan, Australia, several countries in SE Asia, Sweden, the UK, Germany, Portugal, Latvia, and the United States.

Definitions: A Typology of Tools

A great deal of strategic sustainability work consists of knowing which kind of tool to use in which context. A good sustainability practitioner knows how to make strategic and tactical decisions regarding when to introduce or use a specific framework, a process, a methodology, or a simpler tool like an indicator. She or he also knows which one to choose, so that it will be appropriate to the culture or the level of readiness of a group. In many circumstances, the practitioner must also be able to adapt the tool, or even to create a new one, to meet the needs of the group or situation.

But working with "tools for sustainability" can be a bit confusing, because there are so many kinds of tools, and so many words thrown about to describe them.

So: What is the difference between a "framework", a "methodology", a "process", and a "model"? And what is a "tool", anyway?

Here we offer basic definitions that describe how these words are used in this Guidebook. We include examples, but elsewhere in the Guidebook you will find more detailed information about the *ISIS Accelerator* tools themselves. Understanding the kind of tool you are using will help you to use it appropriately, and teach it to other people.

Note that in most cases, you will not have to worry about explaining the distinctions between different kinds of tools to the people, groups or organizations you are working with. But it will be useful to you to keep these distinctions in mind.

1. Framework

A "framework" is a set of definitions, principles, and often symbols that describes a complex concept. A framework provides definition and structure to the concept. Think of it as the platform on which a group can stand to talk about complex topic, so that everyone can be reasonably sure that they are talking about the same thing. The "*Compass of Sustainability*", which describes the concept of sustainability in general terms and provides a structure for organizing discussions and other processes, is a framework.

2. Model

A "model" is a symbolic representation of something in the real world. A model is used to reveal important elements and/or dynamics in a thing or a process. For example, if you draw a map of a city water system on the wall, showing how it all links together, you have created a model of that system. Models do not have to be maps or pictures; the "Gilman Equation," which is one of the *Amoeba* tools, is a model of the cultural change process.

3. Methodology

A "methodology" (or "method") is a logical sequence of steps, to be done in a particular way and in a particular order, to achieve a particular kind of result. Different kinds of scientific experiments come to mind here. More simply, you might think of a methodology as a recipe. You don't need

to be a group to be using a methodology; you can use it in your own head. *ISIS* -- which involves thinking and working in a logical way, from indicators to systems analysis to innovation to strategy -- is a methodology.

4. Process

A "process" is something you do in collaboration with other people (i.e., "group process"). Like a methodology, a process is also a structured sequence of steps, but they are steps designed to help people do something together. A process may or may not have a specific result as its purpose. For example, going once around a group and allowing everyone a minute to share their point of view is a process, but it is not designed to produce a specific result or product. "*Building the Pyramid*," the training program that is one of the key tools in *Accelerator*, is a process that *incorporates* a methodology, the *ISIS Method*.

5. Tool

"Tool" is an all-purpose word. A tool is *anything* you use to accomplish a task. It includes all of the above, and more. A framework is also a tool: it is something you use to put a set of structured definitions in place. A methodology is a tool: you use it to think your way to a solution, or to create another tool (like, for example, an indicator, or a systems map). Processes and models are also, of course, tools. PowerPoint files are tools. Teaching games are tools. Even a song can be a tool, if you are using it to accomplish a task.

The *ISIS Accelerator* Tools: Overview

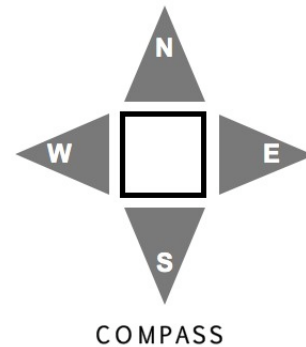
Imagine that *ISIS Accelerator* was an actual, physical toolbox. When you opened it, here is what you would see first: separate toolkits of different sizes and shapes, each with a name and a small symbol on it. Here is a summary of those component sets of tools:

Executive Introduction to Sustainability

This is the smallest and most basic of the tools, a simple PowerPoint presentation with a couple of discussion exercises, which you can modify by adding your own case studies and examples (or anything else). This tool also serves as an introduction to the other *Accelerator* tools.

Compass

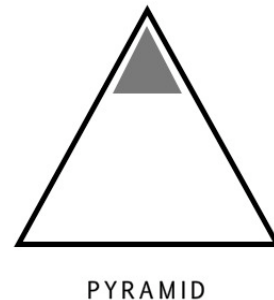
Compass is named for its core image and framework, a compass with the four North-East-South-West directional points replaced by the four key dimensions of sustainability: Nature, Economy, Society, and Well-Being. This tool is used for framing, defining, assessing, and measuring progress towards sustainability. With *Compass*, you can create indicators of sustainability for a company, city, or small community; assess the sustainability performance of a specific company or project; or simply communicate the basics of sustainability to people in terms they can easily understand.



Note: Compass covers both technical and process management aspects for framing, defining, and measuring sustainability. It includes how to engage stakeholders, manage technical experts, and develop sustainability (aka CSR or corporate citizenship) reports.

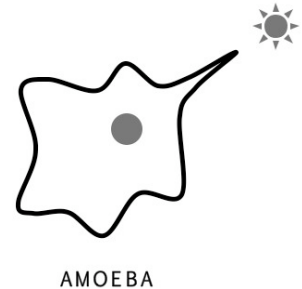
Pyramid

"*Building the Pyramid*" is a very versatile group-process tool that can be used in many ways: as an introductory workshop on sustainable development; as a planning workshop for creating new initiatives, projects, visions, or strategies; and as a multi-stakeholder process for building consensus around a course of action. When necessary, it can do all three of things at the same time. "*Pyramid*" is named for the three-dimensional model that is built during the course of the workshop. The model can be a real, physical object, or a "virtual", imaginary object. The Pyramid model is used to capture and reflect the results of the group process, and to symbolize the group's conclusions and resulting commitments to future action.



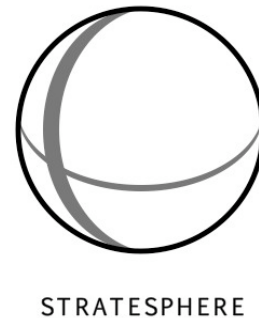
Amoeba

"*Amoeba*" includes a set of tools for accelerating innovation, planning for change, and building competence in the art of change agency. It includes a set of analysis tools and models, a training workshop with a roll-playing simulation game, and worksheets designed to support strategic thinking, planning, and decision making around how to introduce and spread innovative ideas in a culture or organization. *Amoeba* is named for its central metaphor: thinking of cultural groups as "amoebae", first sending out exploratory "pseudopods" towards new ideas, and then shifting the whole amoeba to a new position. The tool is based on classic innovation diffusion theory, augmented by fifteen years of consulting experience in sustainable development.



StrateSphere

"*StrateSphere*" is an integrated system for creating and monitoring a comprehensive strategic plan, so that you can continuously adjust and improve it over time, based on evaluation and feedback. The "sphere" metaphor is used because the system -- which is comprised of several different specific tools -- can give you the 360-degree "global picture" you need for your initiative to be most effective. StrateSphere is especially useful for groups that need to develop basic strategic planning competency, as it comes with basic planning templates for setting goals and establishing performance metrics. But is also especially useful for larger scale initiatives that need to map a complex set of actors, assess where the gaps are in the field or sector in which they operation, and determine their most effective course of action to advance sustainability.



ISIS (Indicators > Systems > Innovation > Strategy)

ISIS is the logical training sequence and decision-making method that is integrated into other *Accelerator* tools, but there is also a standalone handbook for its application, separately from the *Accelerator*. *The ISIS Method Handbook* guides the practitioner through a framework and method for overall planning in a sustainable development context. The Method can be applied to a company, city, region, organization, or any other entity; and it can be seamlessly combined with both *ISIS Accelerator* tools, and other planning and management tools.



How to use *ISIS Accelerator*

Overview

Here is a partial list of the specific things *Accelerator* can help you to do. This is also a list of the topics covered later in this chapter.

- Introduce Sustainability
- Understand Sustainability
- Assess or Evaluate Sustainability
- Create Sustainability Indicators
- Manage Multi-Stakeholder Input to a Sustainable Development Process
- Assess Capacity for Doing Sustainable Development
- Learn the Essentials of Sustainable Development
- Build Capacity for Doing Sustainable Development
- Create a Sustainable Development Initiative or Plan
- Create Multi-Stakeholder Consensus on Action
- Learn the Essentials for Introducing Change and Innovation
- Build Capacity for Accelerating Innovation
- Weigh Options and Choose an Initiative
- Create a Comprehensive Strategic Plan for a Sustainable Development Initiative
- Integrate Sustainability Into Existing Operations

The tools in *ISIS Accelerator* will help you do a great many more things besides, from planning the practical logistics of a workshop, to creating an aggregated, performance-scaled, sustainability index from complex trend-data.

Obviously, no toolbox can do "everything." But the list above should signal to you that the tools in *ISIS Accelerator* are quite comprehensive: there is enough guidance here to support you from start to finish, provided you add your own skill, dedication, and capacity to learn and adapt things to new situations.

As with any tool, the tools in *ISIS Accelerator* are only as good as the people using them. Ultimately it is the carpenter's skill, and not the quality of the hammer or saw (as long as the tools basically work), that determines whether or not the house is well built.

And as with any toolkit, you will probably find certain tools that you use more than others, and some that you never use at all. You can add or mix in other tools, too. Over time *ISIS Accelerator* can become as personalized as an actual toolbox, banged up a bit, and re-organized to match to your personality. When you reach that stage, you'll know you've achieved a level of mastery as a sustainable development practitioner.

How to Use the ISIS Accelerator Tools to Accomplish Specific Tasks

To repeat, you can also think of *ISIS Accelerator* the way a carpenter thinks of a toolbox: a collection of helpful things that you can dip into when you need to solve a specific problem or accomplish a specific task. Here is a short orientation guide from that perspective.

Introducing Sustainability

There are two tools that are helpful for introducing people to sustainability and sustainable development, and they have different purposes:

Use *Executive Introduction to Sustainability* when you simply want to inform a group about what sustainability is, and what is happening in the world that makes it both important and relevant. This workshop includes basics on terms, history, theory, relevant global trends, and some basics on methods and case studies. It also serves as an orientation to the *ISIS Accelerator*. To be most effective, this workshop needs to be adapted by you with case studies and examples that are specifically relevant to your target group -- e.g., examples from your region, in your industry sector, etc. Time: 3 hours.

Use *Building the Pyramid* (the training application of the *Pyramid* tool) when you want to introduce sustainability to a group by giving them a more extensive, hands-on, and practical experience of the sustainable development process. This workshop covers the basics on the entire *ISIS* process, from the principles of sustainability, to indicators, systems, innovation, and strategy. It is high-energy, highly participatory, and ideal for very mixed groups who come from different sectors or backgrounds, but need/want to get a common grounding in preparation for more extensive collaborative work. Time: preferable 2 days, can be compressed somewhat.

Understand Sustainability

While the two workshops described above obviously help build understanding of sustainability, the *Compass Index* process is particularly well suited for deepening that understanding in concrete terms. Note that *Compass* -- which involves working intensively with a very broad set of issues, trends, and stakeholders to produce indicators that can reflect the status of a system over time -- is focused on *sustainability* and not *sustainable development*. It builds understanding of the conditions for a sustainable system, and of the relationship of relevant trends to those conditions. But *Compass* does not address what to do about such trends. Building understanding about what to *do* for sustainable development, and building a commitment to act, is the purpose of *Pyramid*.

Assess Sustainability

There are several tools in the *Compass* category that are useful here:

If you want to assess the sustainability of a city, region, or community, use the *Compass Handbook for Sustainability Indicator Development*. This will guide you through the process of either:

- (1) Creating and managing a comprehensive initiative, including the input of leaders, experts, and the general public;
- (2) Taking existing data and indicators and re-analyzing to produce a *Compass* Index performance assessment, a set of aggregated sustainability "scores", on an intuitive 0-100 scale; or
- (3) Doing both of the above.

If you want to assess a small company or project in detail, use the *Compass Index for Investors*. This is a comprehensive, 100-parameter, peer-reviewed tool that provides a very thorough evaluation of a small enterprise's current sustainability performance, and future potential.

If you want to assess a large company or government agency, use the *Compass Index for Companies*. This is a simpler tool designed to evaluate a company's publicly available sustainability information, usually in the form of a GRI-based report on Corporate Social Responsibility. The *Compass Index for Companies* can also be used, of course, with private or confidential data sets; but the use of it with public data allows for comparative benchmarking.

Note that the current tool is based on application to the private/corporate sector; public agencies will have to make a few adaptations to match their specific missions.

Create Sustainability Indicators

Assessments are not always the same as indicators, but if your needs are specifically related to indicator development -- to selecting the best measures of sustainability, and reporting on them -- then *The Compass Handbook for Sustainability Indicator Development* is what you need. While designed for use in communities, cities, regions, states, and other geographically-based entities, it can easily be adapted for use in company or organizational setting.

Note: The indicator training exercises in *Building the Pyramid* are based on the *Compass* indicator method, so you can get ideas there for adapting the *Compass* method to different situations.

Get Multi-Stakeholder Input to a Sustainability Initiative

The *Compass* indicator-development process can easily be adapted to getting multi-stakeholder feedback. Use the *Compass* framework itself to assure that you have adequate diversity in the process, and adapt the facilitation tools for guiding discussion on the topics you need feedback on. If you need to balance executive and expert input to produce a "highest common denominator" compromise of some kind, the *Compass* process will be especially helpful and adaptable.

Assess Capacity for Doing Sustainable Development

A simple tool called the *Pyramid Assessment* is included in this version of *ISIS Accelerator*. The tool guides you through assessing a group or organization's ability to (1) understand sustainability, (2) use indicators, (3) think and operate systemically, (4) link innovation processes to sustainability goals, (5) implement change processes for sustainability, and (6) create alignment and consensus on sustainability goals and objectives.

Learn the Essentials of Sustainable Development

As noted above, *Pyramid* is the best general tool for teaching people *sustainable development* (as opposed to *sustainability* -- see *Compass* for that). However, if you need to train people in the essentials of sustainable development from an international perspective -- that is, give them the basics on the emergence of "SD" as a concept, and how it is being applied internationally, from the UN to small companies -- then you should look at adapting the "Executive Introduction" to the task by adding curriculum elements on those pieces you wish to focus on.

Build Capacity for Doing Sustainable Development

The entire *ISIS Accelerator* package is designed to do this. One recommendation: Use the *Pyramid Assessment* tool to help you *prioritize* the capacities that most need improvement, in the context of the system you are working with.

Create a Sustainable Development Initiative or Plan

Use *The ISIS Method Handbook* to develop the overall framework for your planning initiative (a "plan for planning").

Then, you can use a combination of *Pyramid*, *StrateSphere*, and *Amoeba*, in the following way:

Use a *Pyramid Planning Process* to create consensus on a new strategic direction, initiative, or set of projects, that will contribute to sustainability.

Use *StrateSphere* to create the strategic plan for implementing that initiative, as well as the monitoring system to follow-up on its impact and success.

Use *Amoeba* to train the core group of people who will be introducing and promoting the initiative, and to create specific "diffusion plans" for specific sectors, as appropriate.

Create Multi-Stakeholder Consensus on Action

This is the most important outcome of a *Pyramid Planning Process*. By working people through a common, collaborative thinking process, stakeholders have "traveled together down the road" and understand why the concluding consensus is the best current option. The consensus produced by a *Pyramid Planning Process* can therefore be very robust, since it also creates a relatively large core of people who can explain the reasoning behind the action plan to the people who weren't there when the plan was created.

Learn the Essentials for Introducing Change and Innovation for Sustainability

This is the purpose of *Amoeba*. The *Amoeba* workshop can communicate those essentials effectively in two hours or less.

Build Capacity for Accelerating Innovation

Again, this is *Amoeba's* purpose, but one can take the model farther by using the planning tools that came with the workshop, and by working through a real problem as opposed to a simulated one.

Also, the "Change Agent Self-Assessment Questionnaire" can be a powerful tool for self-reflection and discussion, and will help initiative participants areas where they may be weak in their skills to help promote change. Then they can plan to get additional training or experience to improve those skills, or recruit others who have them.

Weigh Options and Choose an Initiative

The *Pyramid* process, both in training and planning terms, includes extensive practice and some methodologies for doing this. Some of these come from the *Amoeba* model, some from *Compass*. Getting familiar with all three models will help build both individual capacities in this regard, as well as give you some group process tools for practicing coming to decisions about how to select top-priority initiatives, indicators, etc.

Create a Comprehensive Strategic Plan for a Sustainable Development Initiative

See *The ISIS Method Handbook* and *StrateSphere*. Take the output from a Pyramid Planning Process (which is often framed in terms of a set of goals and/or strategies) and structure the implementation with *StrateSphere*. Then use the other *StrateSphere* tools to assess your options, capacity, and performance. *StrateSphere* can also be used for other forms of strategic planning that are not specifically concerned with sustainable development; but it was developed with SD needs in mind.

Theory: The Ideas Behind *ISIS Accelerator*

ISIS Accelerator is built on a foundation of theory -- general ideas about how the world works, and how people can work with it to make positive change happen. The core ideas originally came from fields like system dynamics and cybernetics (the science of system control), with a great deal of economics, ecology, innovation theory, and basic science thrown in.

You do not need to know much about theory to use many of the *ISIS Accelerator* tools effectively ... but it helps to be familiar with some basics. So this section explains the conceptual foundation of Accelerator in basic terms.

Note that this section limits itself to the ideas most directly linked to *ISIS Accelerator*, and not to underlying disciplines like system dynamics, ecological economics and the like. To explore these ideas more deeply and in more detail, see the "Sources and Resources" section.

Overview

The theory behind *ISIS Accelerator* is essentially a set of ideas that are an attempt to answer this question: *What does it take to "do sustainable development"?* The theory can be thought of as *a set of principles*, a set of "musts," that have grown out of our years of experience in the field.

Of course, many people successfully do sustainable development without referring to a list of principles, or to theory of any kind. Still, I believe that successful sustainable development involves all of these principles -- whether the group or practitioner is *conscious* of them or not.

The principles are presented here as a set of statements, in a logical sequence, with explanations. Each principle builds on the previous one. It is rather obvious that the sequence is ultimately not a straight line, with a beginning and an end, but a continuous circle: when one comes to the end of the sequence, one starts over again, but this time with more understanding and experience than the previous time around.

Again, most sustainable development initiatives in the world today have not followed this sequence in any formal sense. But I would say that all initiatives actually *do* "follow" this sequence, in some sense -- which includes that they also hop around in it, skip things (or do them badly), or go back to earlier items in the list, often without consciously thinking about it.

Finally, the purpose of describing a theory like this is not to declare how people "must" do sustainable development. It is to make clear to you -- a user of the *ISIS Accelerator* tools -- what the ideas, assumptions, and beliefs are behind the tools you are using. This will help you in adapting them to your needs.

You do not have to accept this theory to successfully use the tools! In fact, you are encouraged to reflect on it, critique it, and challenge it. That will also help to make your work more effective -- and, in time, to strengthen the theory itself.

The Theory in Brief: Nine Principles of Sustainable Development

To do sustainable development ...

First, one must understand the general concept of a "system."

A system is a collection of elements that are linked together in a web of cause-and-effect relationships. Our world is made up of countless systems, and while each "system" partly stands alone, it is also true that each system is affected by other systems. Indeed, the entire world is linked in a set of complex, cause-and-effect relationships. That makes *systems thinking*, the ability to see and understand these linkages, a pre-requisite for doing sustainable development effectively.

Systems thinking is not "modern" or "technical", nor does it require advanced professional training. Systems thinking is a fundamental human skill. Virtually anybody can understand that a city, a forest, a company, or a person is a system, which is in turn made up internally of smaller systems, and linked in turn to many other systems outside of itself. And if one stops to think, and has good information, one can usually build a good working mental model of any system and its key causal linkages.

Doing sustainable development requires, first and foremost, that we stop to think. While systems thinking is a universal human skill, it is also a skill that people have either more or less of -- and one needs more of it to do sustainable development work effectively.

Second, one must know what "sustainability" means.

In general terms, we define sustainability as *the ability of a system to continue working (and evolving) over the long term*. Whether that system is a forest, a national economy, a school system, or one's own body, there exists a set of *conditions and boundaries* that define whether or not the system will be able to keep going, or whether it is likely to suffer some kind of collapse. Doing sustainable development requires that we understand what those conditions and boundaries are, so that we can help a system to function optimally within them.

Third, one must understand the difference between "development" and "growth".

"Development" means change over time. "Growth" means expansion over time. These concepts are often used interchangeably, but they are not identical. Lack of clarity about this distinction creates confusion in sustainable development initiatives, as well as problems in the world generally.

Strictly speaking, *growth is a kind of development*. Development can also involve reductions, as well as qualitative changes that involve neither growth nor reduction.

Sometimes something *has* to grow for a system to be sustainable ... and sometimes not. Sometimes growth is what makes a system *unsustainable*. Doing sustainable development effectively requires understanding the difference between growth and development, and applying that understanding effectively.

Fourth, one must have adequate information about (1) the current state of the system one is attempting to make more sustainable, and (2) the critical trends affecting that system's development.

Many of the problems we are now trying to solve -- ranging from climate change to shortages of fresh water in rural villages -- are partly the result of having very limited information about the systems we were working with. So when it comes to doing sustainable development, the more you know about the systems you are operating in, the better.

What are the key internal elements, structures, and processes that make that system "work"? What are the most important links -- in terms of physical couplings, information flows, decisions and more -- between that system and the rest of the world around it? What is the current status of all those pieces of the overall puzzle? And what are the trends, or changes over time that can give us a clue about where the whole system is headed? Gathering comprehensive information of this kind is fundamental to doing sustainable development.

Fifth, one must understand how that specific system works (its dynamics).

It is not enough to understand systems generally, or even to have detailed information about a certain system. You must be able to use that information to understand critical cause-and-effect relationships and control mechanisms. *Why* are certain critical trends happening? What trends are linked together, and how? What's causing what? How does the system "decide what to do next"? And where are the "vicious circles" and "virtuous circles" (feedback loops) in the system, driving its overall behavior?

When one knows the answers to these questions, it becomes possible to know *where* in the system one needs to make changes.

Sixth, one must identify the specific changes -- "innovations" -- that will improve the system's development pathway, and put it (or keep it) on a sustainable course.

Once you understand *how* the system works, you can begin working on *what* to change. General ideas are not enough; ultimately you must choose a specific action, or set of actions, to take. The word "innovation" is used very broadly here, to mean any kind of change introduced to a system, regardless of whether it is actually a "new thing."

Seventh, one must know how to successfully introduce and fully implement those changes.

Making change also involves another layer of systems thinking and analysis, as one moves from understanding *how the system works* to knowing *how to change it*. This involves knowing

where critical decisions are made, knowing which elements of the system are more open to change, knowing where resistance to change is most likely to occur, and more besides.

Eighth, one must successfully implement.

Making actual change requires strategy, resources, commitment, support, relevant skills, and the capacity to adapt your plans and strategies to unforeseen circumstances. For in the process of trying to change a system, you will undoubtedly learn new things about it. Continuous learning and adaptation is a critical element of successful implementation.

Ninth, and finally, one must continuously monitor results.

... and continuously improve one's information, systems understanding, specific change initiatives, and capacity to implement change.

Sustainable development is a never-ending process, because *development* is a never-ending process. The Laws of Nature see to it that nothing ever stays the same; everything changes over time. The questions, from a sustainability perspective, are always this: Where are we currently headed? Why? What must we adjust, change, invent etc. to ensure that we will keep going in a good direction? How do we implement that?

Deeper Into Theory

What follows are a series of short texts and book excerpts that will help you to deepen your understanding of the nine requirements for sustainable development described above. The *Sources and Resources* section then provides you with opportunities for deepening your theoretical knowledge still further.

To review and restate them briefly, those nine requirements are:

1. General understanding of systems
2. General understanding of sustainability
3. Ability to distinguish between "development" and "growth"
4. Adequate information on current developments and trends for the system in question (Indicators)
5. Specific systems understanding of the system in question (Systems)
6. Identify what specific changes to make in the system (Innovation)
7. General understanding of how make change in that system (Strategy)
8. Successful implementation of that change (Action)
9. Continuous monitoring and adaptation

Requirement 1: General understanding of systems

The science of systems is extremely rich, deep, and complex. It is impossible to master it quickly. But even a very rudimentary understanding of the basics can be very helpful. A good

general principle is to *learn as much as you can, and to use what you learn as much as you can, regardless of what your level of understanding is.*

At the *Beginner* level, systems thinking means being able to:

1. Identify the key elements in a system

Example: your personal financial system consists of your income, your expenditures, your bank account, and the prices and quantities of the things you buy

2. Identify the most important cause-and-effect relationships among them

Example: when your expenditures go up, your bank account goes down

3. Map those elements and relationships, to understand key chains (and loops) of cause-and-effect

Example: you could construct a simple diagram with boxes and arrows showing how your income, expenditures, and bank account are all related

At the *Beginner* level, practicing systems thinking produces new understanding about how the system works, and new ideas about how to change it. For example, many people believe that they must work harder and increase their income to be better off financially. Mapping a personal financial system might make it clearer that there are multiple ways to improve one's financial situation, such as reducing the quantity of things one buys, or choosing items with lower prices.

At the *Intermediate* level, systems thinking involves:

4. **Differentiating between kinds of system elements**, including sources, sinks, stocks, flows, feedback loops, and time delays
5. **Using basic systems modeling** to understand the system *structures* (such as balancing or reinforcing feedback loops that control the rates of flow into and out of stocks)
6. **Using models to understand patterns of behavior** that are exhibited by the system over time, as a function of their structure

At the *Intermediate* level, practicing systems thinking produces new insights about system behavior that can increase the accuracy and subtlety of one's understanding, and help one to identify hidden leverage points for change. Continuing our example, modeling a personal financial system might lead to the insight that purchasing expensive items leads to purchasing still more expensive items, as one becomes "addicted" to a certain kind and level of consumption. This kind of "vicious circle" feedback-loop structure (known as a reinforcing loop) is only apparent as one digs deeper and deeper into the cause-and-effect relationships ("So, why *do* I buy all those expensive items?"). It can also reveal links to other systems, such as -- in the case of this example -- the amount of time one must spend working, as opposed to being with family, learning, or relaxing.

At the *Advanced* level, systems thinking involves:

7. **Quantifying the values** of the stocks, flows, and feedback/control mechanisms in the system using real or simulated data
8. **Translating the cause-and-effect relationships into mathematical equations**, so that changes up and down can be measured, tested, and validated against the real world
9. **Using computers** to solve the equations rapidly and show the dynamics (changes in all the system elements) of the system as it evolves over time

At the Advanced level, "systems thinking" is actually the science of "system dynamics," which is used to support much more sophisticated management challenges than simply balancing a checkbook. System models of this kind help us to understand traffic systems, big companies, national economies, and global climate, among many other applications. But advanced systems thinking can also be used at smaller scales -- for example, analyzing the admissions patterns at a university, studying the ecology of a pond ... or even looking in great detail at your own financial future.

NOTE: It is not necessary to have mastered the Intermediate or Advanced levels of systems thinking to do sustainable development successfully, or to use the ISIS Accelerator. In fact, formal training in "systems thinking" is not strictly a requirement at all. Some of the best "systems thinkers" -- for example, the tribes of the Amazon rainforest, who know their systems with extraordinary detail and subtlety -- did not go to school to study the language of system dynamics.

Systems thinking of some kind *is*, however, a requirement for doing sustainable development. And for those trained in the industrial world, the core concepts of the science of systems dynamics -- concepts like sources, sinks, stocks, flows, feedback loops, and feedback delays (which one learns at the Intermediate level) -- can be extraordinarily helpful, indeed essential, for deepening systems understanding and getting a practical grip on how specific systems work.

In our experience, even simple mapping of key system elements and cause-and-effect relationships (Beginner level) can be an important step forward for many people and groups. The *ISIS Accelerator* tools are therefore designed primarily around Beginner level systems thinking, to ensure that virtually anyone can use the tools and participate successfully in *Accelerator* workshops and processes. But *it is entirely possible, and indeed recommended, to use Intermediate or Advanced systems thinking in combination with the ISIS Method and the ISIS Accelerator tools if the capacity of your group allows this.*

The following, excerpted from the book *Believing Cassandra* (AtKisson, 1999), is a short introduction to the basic terms and concepts in systems thinking.

[Excerpt from Believing Cassandra, Chapter 4:]

A *system* is a collection of separate elements that are connected together to form a coherent whole. Your body is a system, and it is comprised of many smaller systems,

all working together: the circulatory system, the digestive system, and so on. The connections between the elements of a system come in two forms: stuff and information. For example, you eat food (stuff), and when your belly gets full it sends a signal (information) to your brain telling you to stop eating.

The science of system dynamics uses a lingo, and it is easy to learn. In the example above, the food moving through your gullet would be called a *flow*. Your belly, filling up from the flow of food, would be called a *stock*. And the signal sent to your brain, indicating whether the stock of food in your belly has reached that comforting level known as “full,” is called *feedback*.

The feedback from your belly has an impact on your eating behavior, which in turn causes more feedback from the belly. All that circling around of stuff and information, which controls (or should control) how much you eat, is called a *feedback loop*. This feedback loop, like most others, operates in two directions: it tells you to stop eating when you are full, and it starts your search for food again when your belly is not full. Feedback loops essentially give one of two messages to the system: “do more” or “do less.”

Systems can be described in terms of their stocks, flows, and feedback loops. In the World3 computer model [created by a group of systems scientists to describe critical global systems -- see the "Sources" section and refer to the book *The Limits to Growth*], population is a stock, birth and death are flows, and signals about what is happening in that system travel around many different kinds of feedback loops. For instance, when people notice that more of their babies are surviving, and their parents are living longer, they eventually start having fewer babies. You can project the level of population twenty years from now by looking at how big it is at the moment (the current stock), how fast it's growing (the flow of babies in, minus the flow of dead people out), what else is changing in the system (including infant mortality and life expectancy), and how long it takes before people adjust their breeding behavior in response to the feedback.

A critical point to remember: *Delays in feedback slow down response*. You can't react to changes you don't know about. And when you *do* know about the changes, you may not have enough time to respond. We will return to this point, because it is the crux of [many global problems].

Here are two more important systems concepts: *sources* and *sinks*. Sources are where stuff comes from; sinks are where stuff ends up. Farmlands and oceans are the *source* of the food you eat. In certain more enlightened societies, farmland is also the *sink* where the compostable residue ends up; for most of us, though, the sink is some local body of water connected with a sewage treatment plant. Mines are a source of materials; landfills are often their sink, or final resting place. When garbage is burned or incinerated, the atmosphere acts as a sink. Sometimes even the human body acts as a sink, as when lead builds up in the tissues. The impact of that lead is not felt directly at once, but cumulatively over years, and this is another example of a delay in feedback. By the time you notice the symptoms of lead poisoning, it's too late: you're poisoned, and there is no way to get the poison out fast enough to prevent further damage.

The critical thing to know about sources is that they can run out. As for sinks, they can fill up and spill over, just like the sink in your bathroom. A disappearing source creates a shortage; an overfilled sink creates a mess.

Obviously, the issue of how quickly we get feedback about what's happening in the sources and sinks is extremely important to understanding and managing systems. [In the 1972 version of the World3 computer model, the world seemed at risk of running out of critical *sources*.] But it turns out that the real danger was in the *sinks*. Fueled by runaway growth, they've been filling up and overflowing. "Overloaded sinks" is one way to describe the cause of global warming, chemical pollution, and the rising rates of cancer and genetic abnormalities. Had we been watching the atmospheric sink carefully, had we understood the dynamics of what was happening, and had we gotten more compelling feedback sooner and responded to that feedback in time, we might have turned off the faucet of CO₂ and prevented the climate system from going out of balance.

But we didn't. So it went.

Climate is but a single story in a long series of stories about what happens when an exponentially growing World begins to hit up against slow-to-respond Nature. The problem is inherent in the structure of both. Nature and the human World are both comprised of a tremendous number of systems and subsystems, ranging from the very small (say, a gnat, or your personal checking account) to the extremely large (the global climate, or the global economy). These systems interact with each other in ways that are mind-boggling in their complexity. No one person could thoroughly understand even the smallest fraction of it. But buried deep inside that tangled web of sources, sinks, stocks, flows, and feedback loops, both human and natural, lies the answer to a Sphinxian riddle of life-or-death importance: What, exactly, is the problem here on Planet Earth?

The precise location of the problem that is driving the World to the brink of collapse, and pushing Nature dangerously out of balance, can be found at those critical points where the World and Nature are intimately communicating with each other.

The problem is, they *aren't*.

Nature and the World affect each other mightily—but they don't dance very well. It's a matter of feedback loops. They're not hooked up right. Stuff flows out of Nature into the World, depleting critical sources (such as forests and fish). Or stuff flows from the World into Nature, filling the sinks with things it doesn't need and can't get rid of (such as chemicals that mimic the hormone estrogen). The feedback signals coming back from Nature to the World—telling us that sources are falling, or sinks filling—arrive too slowly, or not at all, or get ignored on arrival. The World's responses to the signals it *does* get from Nature generally come too late, or only partially, or not all. Instead of a complex and elegant marriage of the human World with the systems of Nature, joined in the matrimonial bonds of highly integrated feedback loops, there is a dangerous estrangement. What we've got here is a pair of dance partners who don't do the same steps, don't feel the same rhythm, don't listen to each other, and have a growing number of bruised and bloody toes.

Add it all up, and you get a World that is out of control, and virtually uncontrollable—at least, as currently designed. [Which underscore the need for significant change, in the form of sustainable development.]

[End of excerpt]

Requirement 2: General understanding of sustainability

A common critique of the word "sustainability" has often been that it is a "vague" concept, or that it is "all things to all people." The *ISIS Accelerator* is built on the premise that sustainability is actually a very clear term, which can be applied to a wide variety of different fields, and that sustainability can, in fact, be measured. In nearly every area where sustainability concerns itself -- from the preservation of healthy forests, to ensuring vital economies, to social concerns like crime or voting, to individual health -- humanity has built up a store of knowledge that makes it possible to say, with some confidence, what is and is not sustainable.

For example, we know that forests must not be cut down faster than they can grow back, that forests cannot be carved up into pieces that are too small if its species are to survive, and that occasionally some forests must experience fire to rejuvenate themselves. Such scientific understanding increases all the time, and makes it possible to look at a forest and declare whether or not it is being managed sustainably. (There are even certification programs for such things.)

In economics, there are long-standing areas of consensus about what levels of unemployment are optimal, what constitutes a recession, the role of innovation and productivity gains. These too can be measured, and trends can be assessed as to whether current conditions are optimal, or are trending toward (or away from) optimal conditions.

Similarly, research into areas like "social capital" can tell us a great deal about whether a society has a stock of trust, participation, and network density that makes its long-term health and relative economic competitiveness better or worse than others.

Finally, in the area of human well-being, international standards and goals have been set regarding topics like infant mortality and adult health, and more and more research is being published (in both the technical and popular press) on the question of what makes people happy and satisfied with their lives, and how to measure that as well.

Sustainability involves the effective interaction of *all* these factors, and many more besides. For a whole company, or city, or person, or world to be sustainable -- to be able to continue over over the long-term -- all of its critical component systems must be sustainable. This *systemic* view of the world is fundamental to sustainability (hence principle 1).

The best way we have found to communicate this core fact -- that sustainability involves many factors which can nonetheless be clearly defined -- is through the use of *indicators*, trend data that establish clearly the crucial factors involved in assessing sustainability, and the

improvement or decline in those factors over time. See the next section for more on this topic.

Sustainability also involves recognition of the *limits* within which a system must operate. This argument was first put forward most strongly by the authors of the book *The Limits to Growth*, published in 1972 (and since updated twice, the most recent version having come out in 2004). This collection of systems scientists tried to convey a fundamental point to the world: that natural, economic, and social systems have limits. For example, it is now clear to us that carbon dioxide building up in the atmosphere is causing global warming: the atmosphere has a *limit* in terms of how much greenhouse gas it can absorb before the climate changes irreparably.

Economies also have limits: if inflation gets too high, it spirals out of control and become "hyperinflation," usually leading to a (hopefully temporary) economic collapse. Inadequate attention to such dynamics is part of what led to the Second World War. Such limits, especially in situations of rapid growth, often surprise us: in 2008, the world witnessed a classic example of limits to growth, as banks began to collapse in a sea of red ink that, just a year or two previously, had looked like profitable business.

Social systems obviously have limits as well. If a society breaks down to the point where crime is rampant, other things stop working too. South Africa, for example, has been struggling with very high crime rates for some years now. This has the *systemic* effect of slowing down economic development, as investors become nervous about the long-term security of their investments.

Finally, it is clear that the human body has limits with regard to risks to health, the amount of work it can perform, etc. And even our emotions have what might be called "sustainability limits": As I first wrote these words in May of 2005, unhappiness among the people of Uzbekistan (caused by a variety of social and economic factors) was the cause being attributed to widespread violence in that country.

A third concept that is core to sustainability is a *long-term perspective*. Today's trends may not cause a problem next year. But what if they continue for ten years, or twenty? At some point, by thinking only of the short term and ignoring the projected consequences of continued movement in that direction, one "winds up where one is headed" as the old saying goes. Sustainability absolutely requires thinking in longer time frames, so that one does not run up against a limit unexpectedly, without enough time to respond.

Understanding the limits within which a system must operate to survive and thrive over the long term is therefore the essence of sustainability. A sustainable system can continue developing over time; an unsustainable system eventually collapses.

Requirement 3: Ability to distinguish between "development" and "growth"

There exists tremendous confusion about the relationship between concepts like "sustainability," "development," and "growth." Many consultancies today purport to advise

clients on how to achieve "sustainable growth." The phrase is, in most circumstances, an oxymoron. Growth is most often (though certainly not always) unsustainable, especially when that growth involves the physical expansion of something. When the thing that is growing is depending on a resource that is limited and nonrenewable, growth is *always* unsustainable (and indeed impossible) in the long run. Unchecked exponential growth in such a context -- that is, a continuous and *accelerating* increase in something (e.g., growth at 2% per year implies that each year's increase is larger than the last) -- is not only unsustainable, but is likely to end very suddenly, and very surprisingly.

The reason for the unsustainability of growth lies in the limits of systems: nature runs out of stuff, people run out of patience, the atmosphere runs out of its ability to absorb extra CO2 molecules, etc. The result of inattention to runaway growth in a system, when there are limits to what that system can tolerate, is ultimately collapse.

This is why understanding the critical distinction between *growth* and *development* so important. "Sustainable development" is not at all the same as "sustainable growth". Some growth obviously *contributes* to sustainable development -- for example, growth in the number of solar cells replacing coal-fired power, or growth in the amount of water getting to thirsty rural villagers. And indeed, some kinds of growth *can* continue indefinitely and thus sustainability, such as the growth in human ingenuity. But sustainability requires a clear understanding of the boundary conditions around growth, in any context, and a shift in focus to the process of *development*: evolutionary change in general.

The sustainable development practitioner is generally engaged in an effort to affect the *direction* and *kind* of development, so that it happens in ways that have a greater chance of continuing in the long term. Often this involves attempting to slow or stop one kind of growth process, such as the growth of fossil fuel consumption -- while speeding up another kind of growth, such as the growth in the number of windmills and other renewable energy sources.

So, in addition to being able to differentiate between "growth" and "development", one must also be able to differentiate between different types of growth ... and different types of development. Growth can be considered sustainable when the *right things* are growing ... and when there are appropriate feedback and control mechanisms in place to make sure that the growth slows down and stops as it approaches a systemic limit.

Requirement 4: Adequate information on current developments and trends for the system in question

The previous sections have already set the stage for principle 4: the need for relevant and critical information. To know whether a system (meaning an ecosystem, or a community, or a company, or any complex entity) is sustainable, you must know where it is heading. What's happening in the system? What are the key factors that determine -- or reflect -- its ability to survive and thrive? Are those factors improving, staying the same, or getting worse?

Systems are generally complex. It is impossible to know everything about them. And if we did know "everything," we would be overwhelmed by the information and likely unable to

made decisions effectively. So, in sustainable development work, we are always in search of *adequate* information, which we define here as information that reflects the status of all the critical factors to that system's sustainability, and the patterns in their change over time.

In short, we need to know enough about the direction of the system's development to be able to assess whether that development is sustainable or not.

Since we cannot know everything, we must select out the most relevant and crucial bits of data and information to evaluate the trends in a system. Then we must present the information to ourselves and to others, in a format that we can easily understand: an *indicator*.

Indicators are very familiar to us: we take our body's temperature, we read weather maps, and we drive our cars with the help of indicators. Indicators are signals about current status that do not tell us everything, but that *do* tell us what we need to know to make decisions, and adjustments to those decisions. The blinking light tells us it's time to fuel up the car; the little rain cloud on the weather report suggests that we carry an umbrella.

Sustainability indicators give us the information we need to assess the long-term health of a system. The *ISIS Accelerator* includes a very comprehensive set of tools called *Compass* that supports the process of selecting and communicating such indicators, for a company, city, project, or anything else.

Compass is a framework for sustainability, built on a base of theory first put forward by Herman Daly, and ecological economist, and later modified by Donella Meadows, a systems scientist, before being further modified by Alan AtKisson. The *Compass* indicator process is a set of tools for creating sustainability indicators.

For more on *Compass*, and on indicators in general, see the later section of this Guidebook and the manual for *Compass*. That manual includes detailed descriptions of what makes a good sustainability indicator, and a good *set* of sustainability indicators: the adequate information we need to do sustainable development.

Requirement 5: Specific systems understanding of the system in question

Having a set of indicators and trend information -- no matter how comprehensive -- is not enough for doing sustainable development effectively.

Suppose a government looks at the trend in forestry in a region, and determines that the rate of tree removal is unsustainable. Logging is stopped. Suddenly, thousands of loggers are out of work. The economic impacts result in social tensions, relative poverty ... and many of the loggers begin hunting in the forest for food, killing and eating species that were supposed to be protected by the end of logging.

Having the information about a system is just a first step in understanding it adequately. The second, and more complicated, step is to understand the *dynamics of the system*. What causes what? Where are the control mechanisms? Where are there "exponential growth" rates?

Where are there "vicious cycles" (also known as "reinforcing feedback loops") that result in negative consequences for the system?

Exploring such questions is a pre-requisite for being able to make good decisions about *where to make a change* in a system, as well as *what kind of change* to make, in order to move it in a more sustainable direction.

Without applying at least some basic systems thinking to the information you have available, you are likely to settle for your "pet theory" or pre-existing assumption about what problems are most critical, what causes those problems, and what should be done about them. The literature of system dynamics, however, is full of examples showing that in very many cases, our "common sense" or "intuition" about a system is simply wrong. And by failing to examine a system through fresh eyes, using systems-thinking tools, we often fail to find the best places to make change.

The best places to make change are called "Leverage Points" -- places where small amounts of effort can have large amounts of impact, throughout the system. Sustainable development work is very often focused intensively on the "search for leverage points," and systems analysis -- whether formal or informal, whether it involves mapping or just very careful and thorough reflection -- is the way to find them.

ISIS Accelerator includes a simple tool for mapping systems, "SystemScope," that you can use to begin generating systems insights (the tool is integrated into *Pyramid*). Again, the systems-thinking tools in *Accelerator* are kept to a relatively simple level, so that they can be used by a very broad cross-section of people. More sophisticated users will want to go beyond the drawing of "cause-and-effect" webs, to identify the sources, sinks, stocks, flows, and especially the feedback loops in the system. But in theory -- as well as in practice, in our experience at least -- even the simple tools, which start people on the systems-thinking path, will lead to important, non-intuitive insights, even "Aha!" experiences.

Requirement 6: Knowing what specific changes to make in the system

Once you understand the problem, and where to introduce a solution, *what solution do you introduce?* The answer is not always immediately apparent. Sometimes a change in technology is required, so that different materials and substances replace problematic ones; sometimes, it is a change in a rule or policy that makes all the difference. And sometimes, you cannot change the policy, or the technology, without first changing the concepts or values of the people who make the decisions about policy and technology.

Knowing what *kind* of intervention is called for is essential, because there is often a sense of urgency involved in sustainable development work. *Something* must be done. If a choice is made that proves to be inadequate, or nonfunctional, or something that creates still more problems, precious time will be lost.

Again, systems thinking can be a helpful; and the more detailed one's understanding of the system, the more likely it is that good options for concrete change will present themselves. This does not mean that perfect understanding will produce an obvious and perfect solution:

even at an Advanced level of systems thinking, trial and error is usually the method used to search for better outcomes. Systems, especially when they are very complicated, are notoriously unpredictable.

So there is no substitute for experience, and for being very familiar with the "state of the art" in sustainable development around the world. Most change efforts do not involve inventing something new; they involve adopting (and adapting) an innovation that has already been tried and proven elsewhere. And one can only adopt something if one actually knows about its existence.

For this reason, the effective sustainable development practitioner must be constantly absorbing information about new developments in the field. It is not necessary to know everything that is happening, which would be quite impossible. However, it is vitally important to know *how to find out* what is happening, so that you can search for ideas, models, and alternatives to meet the needs you identify.

Conferences, websites, journals, and networks are essential tools to the sustainable development practitioner. Fortunately, the internet makes rapid access to such developments relatively easy; but it is generally a very good investment to attend conferences and to participate in networks and dialogues of various kinds. That way one gets the benefit of other people and their evaluations of the alternatives they have seen in practice.

Finally, it is crucially important to bear in mind that the "hottest" or "most advanced" new solution or innovation may not always be the best for a specific situation. The practitioner must choose an intervention that has the best potential for success in that system, success that can then create a platform for further initiative. See the next section for more extensive thoughts along these lines.

Requirement 7: General understanding of how to make change in that system

Notice that our "theoretical principles" are getting more and more practical: we now recall that all this thinking and analyzing is being done in order to make real-world changes. Making change in a system usually involves a combination of two different kinds of knowledge:

General knowledge about what is required to create change in a system, especially a *cultural* system, since most sustainable development work involves changes in culture (in the form of different kinds of decisions, policies, or even values).

Specific information about what parts of the system, and what people, are likely to be more accepting of change, which will be more resistant, and which can be helpful or harmful in other ways.

ISIS Accelerator includes a set of tools that are designed to help you develop both kinds of knowledge. The *Amoeba* tools are grounded in a scholarly body of work called "Innovation Diffusion Theory," created by a researcher named Everett M. Rogers. Rogers' studied how

new ideas spread in a great variety of cultural groups; his work is documented in the important book *Diffusion of Innovations*, which was first published in 1962 and has been updated five times since. I subsequently adapted and extended Rogers' theory, in ways that are a bit playful while being very strategically useful, and also integrated some ideas that were developed by pioneering sustainability researcher Robert Gilman. This theoretical background information is presented in the *Amoeba Facilitator's Handbook*, and the concepts are elaborated in more detail in my books *Believing Cassandra* (Chapter 9, "The Innovation Diffusion Game") and *The ISIS Agreement* (especially Chapter 9, "Journey Into the Amoeba").

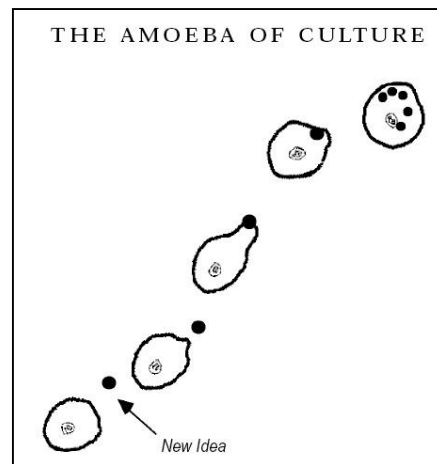
The following lengthy excerpt from *Believing Cassandra* covers many of the basic theoretical concepts that are turned into practical applications in Amoeba.

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[Excerpt from *Believing Cassandra*, Chapter 9:]

Innovation-diffusion theory—first proposed by Everett Rogers in his book *Diffusion of Innovations*—is *itself* an innovation, a very powerful one that has been relatively slow to diffuse beyond the borders of academic communications theory. For sustainability's sake, it's high time this theory became common knowledge.

The process of innovation diffusion is chaotic, because cultures are complex systems. They are creatures swimming in a sea of information that is filled with millions of possible "new ideas." Selected ideas within that sea get eaten, digested, and circulated around, much the same way that a single-celled *Amoeba* takes in a choice particle of food. Very powerful innovations can actually change the *structure* of the cultural system, just as certain chemical compounds can alter the structure of a cell (for good or ill). Sometimes an innovation can completely transform a culture, just as a new concept can completely change the way a large, conscious organism (like you) looks at the World. [Consider the cultural impact of the computer, the telephone, and the airplane, to cite just a few examples.] Given the enormous potential for both positive and negative change that certain innovations carry with them, it's no wonder that cultures are often very cautious about which ideas they take in, and which ones they reject.

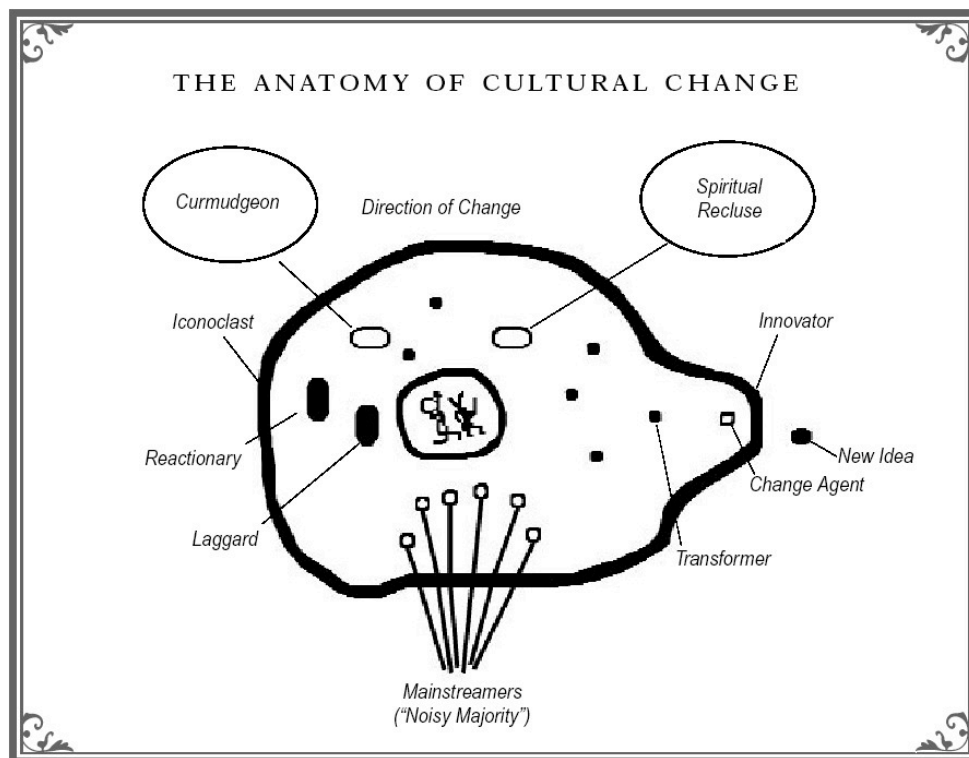


For people interested in making big change happen, innovation-diffusion theory may come as a comfort, because it underscores the fact that you don't have to change the whole World all at once. In fact, trying to do that is a sure way to fail, as is trying to change right away the people who are most likely to oppose your new idea vehemently. These are just two of the traps you can avoid by getting familiar with the "*Amoeba of Culture*" and the "*Anatomy of Cultural Change*."

Cultures are like *Amoebas*: Change starts out at the edge of the pseudopod, on the “cultural membrane,” where a new idea has attracted the “*Amoeba* of culture” like a piece of food. Then, if the idea is compelling enough, the entire *Amoeba* follows the pseudopod in that direction. The “nucleus,” which symbolizes the power center of the culture, is actually very late to arrive on the scene (and often slows the process down, which can sometimes be good).

Innovations start with an *Innovator*, a person or group who invents, discovers, or otherwise initiates a new idea. But innovators are notorious for having a hard time communicating and selling their ideas. They may be geniuses, or far enough outside the mainstream that people see them as eccentrics—people whose notions may be visionary but are perceived as impractical. And because Innovators are often so enamored of their own concepts, in all their originality and complexity, they may have a hard time explaining them in coherent and convincing terms. They don’t fully understand that people need to be *sold* on a new idea, convinced of its benefits, impressed by its features. People need innovations explained to them in comprehensible language, preferably by someone they know and trust, someone who seems more like themselves.

That’s why Innovators need Change Agents.



Change Agents are people who actively and effectively promote new ideas. Classic examples are sales people and organizers; a champion of new ideas in any profession can take on the role. Change Agents understand that convincing people to try something new is more art than science, and depends more on communication skills than (merely) compelling evidence. As consultant Peter Block puts it, “People don’t change their lives based on data. They change it based on an experience, an intimate contact they have with somebody that they trust.” Change Agents *are* that point of

intimate contact, even if that intimacy sometimes takes the form of the written word or the broadcasted image.

Change Agents are people who know how to move skillfully between two levels: the rarefied atmosphere of innovators and their bold new ideas, and the practical ground of regular people and currently accepted practice. They know how to translate the Innovator's breakthrough into an explanation that other people can understand and buy into. Too much information can overwhelm people, and that's why Change Agents don't necessarily tell them everything about an innovation all at once: they focus on what is most likely to appeal, to make people want to learn more. (For instance, marketers talk about stressing the benefits first, not the features.) The most effective Change Agents address their promotional activities to people who are predisposed to try a new idea—"early adopters," in the terminology of innovation-diffusion theory.

I call the early adopters *Transformers*, for two reasons: They are the real doorkeepers to the transformation of a culture, and they often work like an electrical transformer, stepping down the voltage of the innovation and easing it into the mainstream gradually, at a speed the system can safely absorb. Transformers are leaders among mainstream people (in the group, the company, or the society at large), who are open to new ideas but cautious about which ones they promote, because they want to maintain their status. If the Transformers embrace an idea, the *Mainstreamers*—the majority of the culture in question, who watch the Transformers for cues on what new ideas to adopt—are almost sure to follow (perhaps at a safe distance). To make sure that the Mainstreamers *do* follow their lead, the Transformers may alter the idea by toning it down, reducing its radicalness, using it in a way the Innovator never intended, or using only part of it.

Some people may not like the new [idea]; they are "late adopters," or *Laggards*, satisfied with the status quo and not likely to change until they really don't have a choice. And finally, some people—for example, slow-to-adapt oil companies that aren't happy about the notion that people may need far less of their product—may even fight the idea all the way. People who actively resist innovations, and who have a vested interest in maintaining the status quo, I call *Reactionaries*. This is not to be confused with an insulting term hurled at so-called right-wingers by so-called leftists. Reactionaries can reside at any point on the political spectrum.

Several more roles worth knowing about exist in the *Amoeba* of Culture. First, the *Iconoclasts*. These are the gadflies, the protesters, the angry critics of the status quo. They are nay-sayers, not idea-generators. "Iconoclast" means someone who attacks cherished images and beliefs. [...] The Iconoclast's role is to highlight the problems with business-as-usual, an activity that helps create the motivation for change within the mainstream. Iconoclasts, when they are very effective, also keep the Reactionaries busy and distracted, so that the Change Agents can do their work without direct interference.

Then there are two roles that have no particular agenda in the transformation process, but they can still exert a powerful influence. *Spiritual Recluses* are contemplatives who withdraw (actually or metaphorically) from the culture to seek, and preach, the eternal truths. They may promote a sense of vision or inspiration, or call for particular values, that affect the atmosphere of the Mainstream and determine its overall openness to particular kinds of new ideas. (Think of the Dalai

Lama [... or the pronouncements of the leaders of the Orthodox, Anglican, and Catholic churches, on the importance of humanity's stewardship of nature. Such pronouncements can motivate people in a general way, even though they do not involve specific "innovations".].

Curmudgeons, in sharp contrast, have given up on the culture. They see change efforts as useless, and they project a nihilistic sense of disappointment and disillusionment. (Does this sound like anyone you know?) Curmudgeons can poison a change process, sapping people's sense of hope or poisoning interest with bitterness. [...]

How, then, to apply innovation-diffusion theory to the goal of ending Growth and accelerating Development? By (1) promoting the right kinds of ideas, which I have called sustainability innovations, and (2) promoting them effectively. Assessing which innovations are "sustainable" and which are not can be a complicated business [which is where the use of systems thinking and assessment tools can be very helpful]. [...]

A key factor in identifying the most powerful sustainability innovations lies in the application of systems theory. Yes, we need many new technologies that increase our efficiency, decrease our extraction of materials from the Earth, reduce our impact on Nature's complex webs, and lift our societies to higher levels of beauty, prosperity, and equity. But to accomplish those lofty goals ... we are in particular need of innovations that *transform the structure of the World-Nature system itself*. New indicators are potentially such an innovation, because they begin to fix the problem of missing feedback loops. (Innovators in all fields, please note: Creative ways of reducing the delay times between when a problem such as climate change starts to occur, when we know about it, and when we start to take action would be very welcome.)

Innovations that correct a problem in the structure of a system are very powerful, because they can have enormous ripple effects. Consider the indicator of carbon dioxide levels in the atmosphere: Were it not for that graph [on CO2 levels in the atmosphere] (and the science behind it), we might not know yet about the danger of global warming. Had that innovative indicator been "adopted" sooner, by more Change Agents and Transformers, the problem of climate change would have been greatly reduced. But even as things now stand, that single innovation—an indicator that helped fix the feedback loop between human beings and the atmosphere—still deserves credit for helping to catalyze other innovations.... The global CO2 indicator is now altering the World-Nature system, by motivating people to invent and develop more innovations in response, while giving Change Agents a much stronger case for promoting significant change. But no matter how brilliant an innovation, how systemically powerful it is in design, or how critical it is to humanity's well-being, nothing happens if the innovation doesn't diffuse.

"Transformation" is the process of rapid and complete innovation diffusion, and the consequences that ripple out from an innovation's adoption. Think of the replacement of horses with cars at the turn of the twentieth century, the influence of psychology on twentieth century intellectual life, the advent of television or the Internet and their effects on families, relationships, and society at large. These were all innovations that were so broadly adopted, with such wide-ranging repercussions, that they transformed every culture in which they caught on. Transformation to sustainability is therefore not an empty hope, but is a matter of guiding the

processes of invention and innovation diffusion that are going on around us all the time, so that they take us swiftly in the right direction.

Understanding innovation diffusion is therefore critical to spreading the concept and the practice of sustainability, which is an all-encompassing innovation, and to promoting the combination of new ideas, social practices, and technologies that will make the ideal real. For instance, [well-known sustainable development initiatives are also] innovations, and they ... spread to other locales by normal higher-primate methods such as teaching, marketing, and plain old imitating.

What makes an innovation successful? Former astrophysicist Robert Gilman, founder of *In Context* magazine, boiled this question down to a simple equation. I call it the “Gilman Equation,” and here’s the formula. Change occurs when $N - O > CC$, meaning when:

$$\text{Perceived Value of the New Way} - \text{Perceived Value of the Old Way} > \text{Perceived Cost of the Change}$$

In other words, for an innovation to be adopted and change to occur, *the difference in perceived value* between the old and the new way of doing things *has to seem greater than the perceived cost of the switch*.

In even plainer English, for a sustainable solution to be adopted, it has to be seen as *so much better* than what people are already doing that it outweighs whatever additional time, trouble, and money are required to make the change. The key word in the Gilman Equation is “perceived.” It doesn’t matter how beneficial the new thing seems to you, how obvious the problems of the old, or how worthwhile the switch. Other people have to *see* the prospect of change that way. Money is a big determinant, but so are many other factors: aesthetics, prestige, convenience, comfort, and that indescribable quality known as “coolness.” Either something is cool—sexy, attractive, appealing on multiple levels for reasons hard to describe—or it’s not. If an innovation is perceived as cool, that particular factor can outweigh a lot of others, including monetary expense. But without “coolness,” the new thing will have a hard time sweeping the World, no matter how cheap it is.

The Three Avenues of Action

1. *Promote the new.* Or, in more “technical” lingo, “increase the perceived value of the new idea.” Most sales plans are organized around this strategy. The idea is to highlight the benefits of the innovation, note its superior features, design the package for maximum appeal. This is the principal work of Change Agents, but it’s also the work of Innovators, who have to make a very cool and highly functional innovation in the first place, so the Change Agents have something to work with.

2. *Critique the old.* This involves decreasing the perceived value of the status quo by attacking it, either directly or subtly, and pointing out its many faults and weaknesses—in short, making the old way of doing things uncool. As an example, think of negative ads in political campaigns that reveal the incumbent’s sordid past. In cultural change processes, critiquing the old is generally the work of Iconoclasts, though Change Agents know how to do it as well (“Gas-guzzling SUVs? They’re passé, I’m into [hybrids] . . .”).

3. *Facilitate the switch.* This is the most-important and least-obvious strategy for making change happen. It is also where many change efforts fail, because they forget to *reduce the perceived cost of making a change*. You have to *make it easy* for people to change; that's what "facilitate" means, at its root. You have to lower the perceived expense involved in switching—whether that expense is measured in time, money, status, inconvenience, or coolness—to as near zero as possible. If you can turn even the act of switching into an immediate, perceived net *gain*, so much the better. (This is what car dealers do with rebates.) For example, if it were cheap and easy to bring in your car and get the engine replaced with a zero-emission one that ran on hydrogen, and refueling was no problem, you'd probably make the conversion. But if it were expensive and a lot of trouble, you would probably *not* do it, no matter how many messages were thrown at you about the benefits of the new fuel and the problems of global warming associated with your old engine. Facilitating the switch makes all the difference.

What factors influence these three elements of the Gilman Equation? What determines whether an innovation gets perceived as having a higher value than the status quo? Innovation researchers have identified five critical characteristics of innovations, factors that greatly affect the rate at which new ideas get adopted.

The Five Critical Characteristics of an Innovation

1. *Relative advantage.* Does the innovation actually work better than the status quo? More importantly, do people *perceive* it as better? If not, the innovation will not spread quickly, if at all. Lack of relative advantage is what stopped the diffusion of early electric cars in their proverbial tracks.

2. *Complexity.* How difficult is the innovation to understand and apply? The more difficult, the slower the adoption process. Personal computers only began to diffuse rapidly after new operating systems including the Mac and Windows reduced the complexity factor for the average consumer.

3. *Trialability.* Can people "try out" the innovation first? Or must they commit to it all at once? If the latter, people will be far more cautious about adopting it. You probably wouldn't buy a Hypercar unless you could test-drive it first.

4. *Observability.* How visible are the results of using the innovation? If people adopt it, can the difference be easily seen by others? If not, the innovation will spread more slowly. Low observability is one reason why organic foods have taken a while to catch on; it's hard to see the physical difference in people's health.

5. *Compatibility.* How does the innovation fit with people's past experiences and present needs? Does it require a change in people's values, in their sense of identity? If members of the culture feel as though they have to become very different people in order to adopt the innovation, they will be more resistant to doing so. Consider vegetarianism: for many people, adopting it causes both some inconvenience and even some familial conflict. Compatibility is a critical factor to consider for those promoting sustainability innovations, because too often these innovations require a greater change in personal identity than many people are willing to accept.

Judging from that list of characteristics, the sustainability innovation with the easiest pathway to success will (1) appear highly advantageous (and be cool), (2) be

relatively simple to understand, (3) allow people to try it out before they irreversibly commit to it, (4) result in visible improvements to people's lives or to Nature, and (5) be relatively easy to incorporate into a person's (or a society's) existing way of life. All of these factors affect the "Perceived Value of the New Way." Items (3) and (5) also affect the "Perceived Cost of the Switch."

It's not that an innovation *must* meet these criteria; it's just that the probability that it will sweep through a cultural system, and become the newest version of "normal," is greatly affected by these characteristics. Sustainability innovations, and the change efforts associated with them, need to be designed to optimize these factors as much as possible if the intent is to make change happen swiftly. And remember—we are living in an emergency situation, vis-à-vis global resources and trends.

The innovation adoption process is not very conscious. Few people sit down to numerically calculate for themselves the pros and cons of a new idea, the advantages and disadvantages, the costs and benefits. But the Gilman Equation, and the factors that influence it, are constantly operating in the back of their minds nonetheless. People mull things over, chat with their friends, notice who's doing what. They read the signals from the media, the marketplace, and the grapevine. And they take their cues from the other people in their lives, whether personal friends or public figures, whose judgment they trust.

Your mission, if you want to help create a more rapid transformation in the direction of sustainability, is to become a trustworthy source of information about the new ideas that can make the concept real, or even to create those ideas yourself. For sustainability to be achieved "in one generation," as the Dutch government has challenged us all to attempt, thousands, indeed millions, of new Innovators, Change Agents, and Transformers must be working on behalf of that goal.

In the real World's "innovation diffusion game," what role should *you* play? That depends. Self-assessment is the first step. If you are interested in the redesign of transportation systems, but you don't know much about engineering, you are probably not prepared to try to invent a new kind of car, unless you are so passionate about working on this problem that you go out and master the relevant skills. You wouldn't be the first person to follow such a path: many Innovators have fallen in love with a dream long before they had the skills to make it real. But if you are good at *describing* and *promoting* new products, you might make a great Change Agent ...

[End of excerpt]

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Requirement 8: Successful implementation of change

In theoretical terms, this point is obvious to the point of being a tautology: change doesn't happen if change doesn't happen. We state it here to underscore the fact that many sustainable development initiatives get stalled at the point where plans are made, and they are never implemented.

Very often that lack of implementation is the result of problems in the "*Amoeba of Change*" (see above), as "Reactionary" elements successfully block the efforts of "Change Agents". This is one of the reasons the *ISIS Accelerator* places so much emphasis on innovation diffusion theory.

Sometimes the problem is a lack of consensus in the core group driving change, or lack of skill in collaborating to make change happen. For this reason, many of the *ISIS Accelerator* tools (and especially the *Pyramid* tools) are designed to support capacity building on both collaboration and consensus building, through extensive practice.

But all too often, sustainable development initiatives stall because of a simple lack of skill in strategic planning and project implementation.

One of the newest elements of *ISIS Accelerator* is a strategic planning tool called *StrateSphere*. This tool was developed over the course of several years and tested extensively in client work with a large foundation in the United States, The Heinz Endowments, which makes grants to environmental and sustainability initiatives in the region of Pittsburgh, Pennsylvania. The point I want to make here is *the integral and critical importance of systems-based strategic planning to sustainable development work*. Because the initiatives of sustainable development generally impact many different sectors of society, industry branches, etc., it is important that practitioners not just "wing it" -- that is, assume that they can improvise their way through a project or program. The tools and methods in *StrateSphere* will help you create a systems-based, "360-degree view" of your strategy, to make sure that you have targeted it as effectively as possible.

Requirement 9: Continuous monitoring and adaptation

As noted at the outset of this section, systems change continuously. Conditions around them change; elements within them change; the people making decisions change. In addition, the sustainable development practitioner is actively trying to *create* change. For all these reasons, sustainable development work is a continuous process of adaptation. Practitioners, being good systems thinkers, are constantly looking for feedback to tell them if their efforts are having the desired impact -- or if something new has happened that requires them to change strategy or tactics.

The *Compass*-based indicator and assessment tools in *ISIS Accelerator* provide a framework and set of methods for creating continuous evaluation tools, at the general level of the system you are trying to change (which is often big enough that one cannot expect any one effort to be the sufficient or decisive effort in a change process, since so many other factors are acting on it). *StrateSphere* also provides guidance on creating more specific measures to assess the impact of your specific actions.

In theory, the more you practice systems thinking, gather information, understand what needs changed and how to change it, monitor what you're doing and what effect it has, and keep adjusting your course of action, the more effective your strategies will be.

And the only way to find out if that theory is true is to try it, in practice.

How *ISIS Accelerator* Tools Relate to Other Sustainability Frameworks and Tools

In this chapter we briefly review a few other frameworks, tools, and methods that are in general use to support change for sustainable development. We relate these tools and methods to their counterparts in *ISIS Accelerator*, and we also show how *ISIS Accelerator* tools can work in synergy with them.

This chapter emphasizes the fact that there is no single "right" or "best" method for doing sustainable development work. As a practitioner, you must make judgments and choices about which tools will bring you the best result, in any given situation. And you must often work with groups or people who have already chosen a tool or method of some kind.

ISIS Accelerator is just one in a growing array of toolkits, frameworks, and methodologies for turning sustainability into an operational reality. And we have designed it with the idea that it can be used in tandem with these other methods.

There are differences between some of these various frameworks, but they are easy to bridge. Below we note a few of these other frameworks and tools, and note how a few specific *ISIS Accelerator* tools can be used with them or adapted to them (or how they can be used with *ISIS Accelerator*). Note that some of the *ISIS Accelerator* tools (such as *Amoeba*) need no real explanation of how they might "fit in" with another set of tools, since there is no obvious discrepancy between them.

For more detailed information on what these other tools actually consist of, please consult the appropriate websites and publications.

Global Reporting Initiative (GRI)

The GRI produces a set of guidelines for sustainability reporting by large companies, organizations, and government agencies. Using the GRI produces a set of sustainability indicators for that entity, and a report that follows standardized guidelines for presenting the data and interpreting it.

The GRI is not a complete framework for sustainable development, but it is a powerful tool used by thousands of organizations around the world. For many, it is the "touchstone" in their internal sustainability or corporate social responsibility programs. It effectively sets the agenda for what they are working on, because it telegraphs to the world a set of performance indicators, to which the entity will be held accountable.

The following *ISIS Accelerator* tools can be easily and directly linked to a GRI report, reporting process, and follow-up activity:

GRI / Compass

GRI sets minimum standards for what indicators should be included in a sustainability report ... but it places no limits on what other material can be included.

You can use *Compass* to ...

Expand the indicator set you are using, with stakeholder input (internal, external, expert, etc.). *Compass* will especially help with integration of economic performance (traditional annual reporting), and with expansion of the Well-being, or quality of life, element of your reporting.

Cluster and structure your report using the *Compass* categories, making the navigation clearer to the average person.

Create a Compass Index, an overall performance score that you can use internally or externally to motivate collaborative work to improve sustainability performance.

You can also use the *Compass Assessment for Companies* tool to *evaluate a GRI-based sustainability report*. The *Compass Assessment* assesses the publicly-declared "level of ambition" of the company or organization, relative to ideal sustainability standards, as well as whether it is reporting on concrete progress towards those standards.

Conversely, if you are using *Compass* as your starting point, it is a relatively simple matter to complement your report with indicators from the GRI Guidelines, and then to provide a guide to their location via the indexing format that GRI specifies for that purpose.

GRI / Pyramid

A GRI report is an excellent starting point for a *Pyramid* exercise. You can either adapt the GRI indicators to the *Compass* format (and expand on those indicators a bit in the Pyramid process), or simply create a *Pyramid* that is three-sided, and that matches the GRI framework.

GRI / StrateSphere

A GRI report provides a wonderful basis for creating the performance measures necessary for running a *StrateSphere* analysis. In addition, reviews of competitors' GRI reports can be useful in conducting a "RESA" analysis. (RESA stands for "Relevant Strategic Activity", and is a mapping process to understand who is doing what to support, or oppose, the changes you are trying to make in a system. See *StrateSphere*.)

Triple Bottom Line (TBL)

In some areas of the world (most notably Australia), the phrase "Triple Bottom Line" has been adopted as the overarching framework for sustainability. TBL is essentially a reworking of the classic "environment-economy-social" triad of core sustainability domains, which stretches back to the introduction of the term into international dialogue during the 1980s. John Elkington, who originated the phrase "Triple Bottom Line," did so to link those three

concepts more tightly to the business community and its dominant language. (Note: This was a brilliant act of Sustainability Change Agency on Elkington's part.)

In practice, TBL generally involves the execution of a GRI report; but it may also be framing other work inside an organization, according to its categories. Generally speaking, the guidelines for linking *ISIS Accelerator* to TBL are the same as for linking to *Compass*. We have, for example, often conducted sessions of *Pyramid* that were three-sided, rather than four, to reflect the Triple Bottom Line structure of the initiative in question.

Corporate Social Responsibility (CSR or CR)

Corporate (Social) Responsibility -- the word "Social" may be in the process of disappearing, in favor of the shorter and more all-encompassing phrase "Corporate Responsibility" -- is a very broad term that is often used to define an organization's activities that are outside the core business, and concerned with its environmental and social behavior. Some new definition for the phrase will likely emerge from an effort by the International Standards Organization (ISO) to create new guidelines for what a CSR program should consist of, just as they have done for areas like environmental management and quality management. (Google "ISO26000" to find out more.)

A CSR program can often involve a GRI report *and* an embrace of the Triple Bottom Line, so all of foregoing notes apply here as well.

In addition, CSR places a special emphasis on *stakeholder engagement*, and including the perspectives of those affected by the company in the company's planning and decision-making and monitoring. Here, *ISIS Accelerator* tools can be very helpful, and a powerful addition to a CSR program. To focus on just two tools:

CSR / Compass

In addition to being an indicator development tool, *Compass* is a well-defined process for managing the input of diverse stakeholders to an advisory process. *Compass* can be used (and has often been used) to help identify stakeholders, and to structure their conversations, so that they are sufficiently inter-disciplinary. The potential for learning across boundaries, and for finding unexpected areas of consensus for action, is very potent in our experience.

CSR / Pyramid

Since CSR programs are often searching for "new things to do," *Pyramid* can help them find them ... and, with reference to the notes above, with the input off a diverse stakeholder group as well.

The Natural Step (TNS)

TNS is a sustainability framework comprised of two essential elements: (1) a set of *system conditions* for sustainability, developed by a consensus process over many years; and (2) a *planning methodology* for identifying what action steps to take to move toward a future that

meets the system conditions. Both *Compass* and *Pyramid* have been successful used in tandem with TNS-based programs; and *Amoeba* has often been used by TNS programs to help them build capacity for strategic implementation.

TNS / Compass

TNS places special emphasis on imagining a future world that meets the conditions of sustainability, and then thinking backward from that future -- "backcasting" -- to the situation today. Compass can easily be used to map the situation today, based on the conditions and visions that have been produced by a TNS backcasting process.

TNS / Pyramid

The TNS Framework can serve as the sustainability foundation for a Pyramid process, and as a set of criteria by which to evaluate the various initiative ideas produced by a Pyramid process.

Balanced Scorecard

The Balanced Scorecard is a widely used management tool that integrates organizational performance management from four different perspectives: financial, customer, internal business process, and learning. Increasingly, sustainability management is being integrated into Balanced Scorecard processes -- though the fit is not always exact.

ISIS Accelerator tools are not a replacement for the Balanced Scorecard, but they can be integrated with the Balanced Scorecard in a wide variety of ways, from supporting an overall adaptation of the Balanced Scorecard to include sustainability issues, to supporting Scorecard implementation in its standard, "non-sustainable" mode.

Balanced Scorecard / ISIS Management Matrix

The ISIS Management Matrix is essentially a checklist that can be used to supports an expansion of the Balanced Scorecards goal-setting and metrics. You can use the Matrix to evaluate the extent to which your Balanced Scorecard system integrates a systemic sustainability perspective.

Balanced Scorecard / Compass

A Compass Assessment of a company can be used in parallel with the Balanced Scorecard, and draw on BS metrics and other elements to populate its own data (which would usually be supplemented with other data not traditionally within the framework of the BS. In this way, Compass essentially provides an evaluation of the extent to which a Balanced Scorecard system is also delivering sustainability results.

Balanced Scorecard / Pyramid

Pyramid can be used in a wide variety of ways to support the Balanced Scorecard. For example, if sustainability training is a company goal under the "Learning" perspective,

Pyramid provides an ideal introduction to applying sustainability in practice, and includes opportunities to integrate aspects of the BS approach into the process as well (e.g., BS metrics). *Pyramid* can also be used as a collaborative planning tool to achieve sustainability related goals within the BS framework.

Balanced Scorecard / Amoeba

Amoeba can support learning, innovation, and change processes within the context of the Balanced Scorecard, regardless of whether those processes are directly related to sustainability or not.

Balanced Scorecard / StrateSphere

Most organizations using the Balanced Scorecard are already sophisticated in their use of planning tools, but elements of StrateSphere -- including the organizational evaluation tools and strategic niche identification tools -- may be very useful for organizations that are just starting out on their sustainability journey.

Ecological Footprint

The Ecological Footprint is a methodology for measuring the overall pressure on nature from human resource consumption and pollution. It is essentially an aggregated performance index (like the Compass Index), against a performance scale of "how many Earths" humanity is currently consuming.

The Ecological Footprint has occasionally been incorporated into a *Compass*-based indicator set. In other contexts, reducing Ecological Footprint has been the focus of a *Pyramid Planning Process*. These and other *ISIS Accelerator* tools can be used in tandem with the Ecological Footprint without any major adjustment to either methodology.

Frequently Asked Questions ... and Important Questions that are Not So Frequently Asked

What is the difference between "sustainability" and "sustainable development"?

While this question is also answered elsewhere in this *Guidebook*, it comes up so frequently -- either as a direct question, or in the form of visible confusion within other people -- that we address it here as well.

Sustainability is ...

A set of system conditions that can continue indefinitely.

Sustainable Development is ...

A strategic process of continuous change in the direction of sustainability

Sustainability is the goal. Sustainable Development is the process of heading toward the goal.

Why "Accelerator"? Why is there a need to speed up the process of sustainable development?

The short answer is, "exponential growth against limits."

To expand a bit: there are a number of critical trends in the world that involve rapid, and accelerating, changes. Some of these changes -- ranging from changes in the balance of greenhouse gases in the atmosphere, to changes in the number of bird species -- are decidedly negative. Some of these negative changes are getting worse at an ever-faster pace. If these changes continue, some sort of crash, or series of crises, is inevitable.

Sustainable development is the process of introducing new solutions in technology, economics, social organization, and human behavior that reduce these negative trends, and/or reduce their negative impact on people and nature in the long term.

Because of the pace of negative change -- some of it very dangerous change (such as climate change, or energy dependence on oil), some of it inhumane (such as famine or preventable disease), and some of it simply tragic (such as the loss of songbird species) -- there is an imperative to increase the pace of positive change: sustainable development.

This is the purpose of this toolkit, and the reason we chose the word "*Accelerator*."

How do you know that the ISIS Accelerator tools "work"?

In the case of the *Compass*, *Amoeba*, and *Pyramid* tools, we have experience in using them in many different ways, contexts, and cultures -- in some cases over a period of sixteen years. If they had not worked very well for us and for our clients during that time, we would never have created a licensing program to share them.

More importantly, however, we know they work not just because we have used them successfully, but because *other people* have used them successfully. In most cases, this "transfer of skill" has happened through direct participation in an AtKisson training, but in a number of cases, effective transfer has happened without any direction link to us: the manuals and other materials alone have guided the user effectively.

In the case of *StrateSphere*, we have used the whole system intensively over a period of several years with a major client (a large foundation), with very positive results. Elements of the system have been used with a much larger number of organizations as well. In our consulting practice, *StrateSphere* is becoming one of the most intensively used tools in our toolbox.

The *ISIS Management Matrix* is an analysis framework that we use "behind the scenes," and mostly informally, in assessing clients of various kinds. We have only recently begun to develop it into a more formal tool that others can use as well. The basic framework has worked so well for us, however, that we think it merits this development work.

Of course, sustainable development is (as repeated many times) a complex and long-term process. No tool is any better than its user. Unexpected circumstances can always crop up. So we certainly cannot guarantee that the *ISIS Accelerator* tools will "work" for you 100% of the time, and it would be irresponsible to claim that they would. But we are quite confident that they will, in the great majority of cases, produce very positive results, and we will do our best to help you, to ensure that they do.

Why should I choose Accelerator tools over other tools?

We are quite convinced that *ISIS Accelerator* is the most *comprehensive and adaptable* toolkit for sustainable development available anywhere. It can support you -- and a very large group of people -- the whole way through an initiative, from initial awareness, to training, to planning and implementation. The tools are generally user-friendly, engaging, and immediately rewarding or educational, in addition to producing impressive results.

But note: We do not necessarily claim that you should "choose *ISIS Accelerator* over other tools." These tools were also designed to be adaptable, so that you can use them *with* other tools. Unlike some other sustainability frameworks, committing to *ISIS Accelerator* does not mean shutting the door on other tools and methods that you find to be helpful. See the section on "Cross-Platform Linkage" for more on this topic.

Will using ISIS Accelerator tools help my organization save money?

Yes -- if that is your goal. The tools are designed to help you understand sustainable development in general terms, and then to focus in on specific initiatives that meet the criteria for sustainability ... but that also meet *your* needs and criteria for success. If one of those criteria is cost-savings in the near term, than *ISIS Accelerator* will support you in the accomplishing that. But for some people and organizations, creating a far-sighted vision of sustainability is more important than cost-savings in the short term, and *ISIS Accelerator* can also support them in achieving that ambition, as well.

Sources and Resources

Here we have assembled a small set of websites relevant to the development or the application of the ISIS Accelerator tools. These will link you to a much deeper well of "sources and resources." This is a very selective list, but it will give you jumping off points for exploring much farther and deeper.

www.sustainer.org

The website of Sustainability Institute, which has excellent resources on systems thinking and the practice of systems analysis, ranging from teaching games to scholarly studies. See especially the links to the following classic texts by Donella H. Meadows: (1) *Indicators and Information Systems for Sustainable Development* (1998); (2) "Places to Intervene in a System" (1997); and *Thinking in Systems: A Primer* (Chelsea Green, 2008, published posthumously).

www.worldchanging.com

Perhaps the best source for up-to-date information on sustainability innovation. Read it regularly, and use the Search function to find articles relative to your specific interests.

www.wri.org

The website of the World Resources Institute, a deep well of information on global indicators and innovation.

www.sustainability.com

The website of the think-tank/consultancy SustainAbility, founded by John Elkington, is a source of many important reports and useful case studies.

www.globalreporting.org

The website of the Global Reporting Initiative provides links to GRI guidelines, reports and related activity on sustainability reporting around the world.

www.earthcharter.org

The Earth Charter is the most widely recognized international declaration on what sustainability means in an *ethics and values* sense, and the Earth Charter website is an excellent jumping off point for exploring the topic of sustainability ethics.

www.AtKisson.com

At the AtKisson site you can keep up to date with activities in the AtKisson network, especially via the AtKisson Report, a periodic newsletter that gives you a strategic perspective on current events. Also gathered here are reports and articles, and links to books that include more expanded versions of the information in this Guidebook.