

MIT Sloan

Management Review

**Peter M. Senge, Benjamin B. Lichtenstein, Katrin Kaeufer,
Hilary Bradbury and John S. Carroll**

Collaborating For Systemic Change

Collaborating For Systemic Change

Meeting the sustainability challenge will require the kind of cross-sector collaboration for which there is still no real precedent. It must be co-created by various stakeholders by interweaving work in three realms: the conceptual, the relational and the action-driven.

Peter M. Senge,
Benyamin B. Lichtenstein,
Katrin Kaeufer,
Hilary Bradbury and
John S. Carroll

For more than a century and a half, industrial growth has been weaving an ever-thickening web of interdependence around the world. Today, consumer choices on one side of the planet affect living conditions for people on the other side. Complex supply chains span the globe; for example, the average pound of food travels between 1,500 and 2,500 miles before it reaches an American consumer.¹ But these developments do not alter biological or social realities that have taken shape over thousands and millions of years. Consequently, businesses operating within this growing web are facing a host of “sustainability” problems: social and ecological imbalances created by this globalization, such as a widening social divide between haves and have-nots, global climate change, exponentially growing chemical and material waste and loss of habitat and species.

Traditionally, businesses have thought such problems to be the result of economic externalities that require governments’ attention. But while governments are a crucial part of lasting change, relying on governmental leadership to effectively deal with sustainability is questionable for many reasons. The first limitation is geography. Even the largest governmental institutions are limited by their borders and can’t attack sustainability problems that are global in nature. The second limitation is time. Elected officials are limited by their election cycles and struggle to deal with problems that develop over decades and don’t align with their time in office. Moreover, due to increased fragmentation in democratic societies, problems that transcend those of specialized interests tend to fall by the wayside.

For these and many more reasons, businesses are finding themselves compelled to exercise leadership around a host of sustainability issues. In particular, recognizing the limitations of what can be done in isolation, many business leaders have already formed collaborative initiatives like the World Business Council for Sustainable Development, the Coalition for Environmentally Responsible Economies and Societies and the Global Reporting Initiative. In spite of such initiatives, however, there are challenges we are just beginning to recognize. (See “About the Research,” p. 46.)

For example, in 1991, Unilever — the consumer products giant based in London — initiated a worldwide collaborative effort toward creating a global certification regime for sustainable fishing involving fishing companies, distributors, retailers, local governments

***Peter M. Senge** is the founding chairperson of the Society for Organizational Learning and a senior lecturer at the MIT Sloan School of Management. **Benyamin B. Lichtenstein** is assistant professor of management and entrepreneurship at the College of Management, University of Massachusetts, Boston. **Katrin Kaeufer** is research director of the Presencing Institute and founding research member of SoL. **Hilary Bradbury** is the director of Sustainable Business Programs at the Marshall School of Business, University of Southern California. **John S. Carroll** is a professor of behavioral and policy sciences, MIT Sloan School of Management. Contact them respectively at diane@solonline.org, b.lichtenstein@umb.edu, Kaeufer@mit.edu, hilary.Bradbury@usc.edu and jcarroll@mit.edu.*

and nongovernmental organizations. Unfortunately, as soon as this Marine Stewardship Council was formed, it was immersed in controversy.² Environmental NGOs interpreted aggressive goals to certify major fisheries as a corporate drive to certify “business-as-usual” overfishing.³ Conversely, NGO efforts to contest certification were criticized by the multinational corporations as stalling progress toward sustainability. One of the first projects of the MSC — to certify the Alaskan pollock fishery (the largest white fish fishery in the world) — became a multiyear legal battle. Similar difficulties have plagued other efforts to establish certification mechanisms in forestry, organic and nongenetically modified foods.

Two conclusions stand out from efforts like the MSC. First, recognition of the need for such collaboration is growing. Second, it is exceedingly difficult to engage a diverse group of partners in successful collaborative systemic change. Although some relevant research exists,⁴ cross-sector collaboration at this scale is largely unexplored. The need is great, but the challenge is equally great.

The Society For Organizational Learning

Beginning in the late 1990s, organizational members of the Society for Organizational Learning began several initiatives focusing on collaborative solutions to a variety of sustainability issues.⁵ The group’s goals have included the application of systems thinking, working with mental models and fostering personal and shared vision to face these complex sustainability issues.⁶

Through its work, SoL has learned that successful collaborative efforts embrace three interconnected types of work — *conceptual*, *relational* and *action driven* — that together build a healthy “learning ecology” for systemic change. Failing to ap-

preciate the importance of each is likely to frustrate otherwise serious and well-funded attempts at collaboration on complex problems. What follows are examples from particular projects in which this learning ecology provided an important foundation for substantive progress.

Conceptual Work: Framing Complex Issues

Making sense of complex issues like sustainability requires systems-thinking skills that are not widely shared. When effective collaboration is the aim, developing a shared conceptual “systems sense” is even more important.

Illustrative Conceptual Projects: Integrating Sustainability Frameworks

A dozen SoL organization members including Shell, Harley Davidson, HP, Xerox and Nike formed the SoL Sustainability Consortium in 1999 to gain a better understanding of how learning tools could support their efforts to integrate sustainability concerns into their business practices.⁷ One of the first conceptual projects that emerged in the consortium grew from the confusion of members about the many different sustainability frameworks and tools they encountered,⁸ including the Natural Step,⁹ Natural Capitalism,¹⁰ ISO 14001,¹¹ Zero Emissions Research Initiative,¹² biomimicry,¹³ WBCSD Indicators,¹⁴ ecological footprints,¹⁵ life-cycle analysis,¹⁶ and cradle to cradle.¹⁷ (See “Describing Different Sustainability Frameworks,” p. 48.)

This confusion became an issue because the proliferation of frameworks and tools was actually slowing progress toward sustainability rather than assisting it, especially because people were spending their time arguing about which framework was “right.” In response the consortium frameworks group emerged — a

subgroup of the consortium that included members from BP, Harley-Davidson, Plug Power, Visteon, MIT and U.S. Natural Step — that came up with two key ideas for integrating and relating different sustainability approaches.¹⁸

1. There are three different worldviews that inform the notion of sustainability.¹⁹ These are *rationalism*, which recognizes the need for efficient utilization of resources through “meeting the needs of the present without compromising the ability of future generations to meet their own needs;”²⁰ *naturalism*, which recognizes the need to bring industrial systems into harmony with nature²¹ by not depleting resources beyond their rates of regeneration; and *humanism*, which recognizes that sustainability depends on an intrinsic human desire to be part of healthy communities that preserve life for ourselves, other species and future generations.²²

Each worldview provides a vital counterbalance to the others. For example, popular rationalistic concepts like eco-efficiency can help businesses waste less, but a growing economy can have an increasingly adverse environmental impact, even as it becomes more efficient in using natural resources. By contrast, naturalism addresses the total impact of industrial activity on nature, but unless it evokes a deep human desire to live within those limits, it doesn’t necessarily motivate change. Similarly, humanism addresses the deeper motivations for sustainability but does not, by itself, lead to the practical tools and metrics for connecting business operations to sustainability outcomes.²³

2. Different sustainability frameworks relate to different levels in the management system. Many frameworks focus on metrics. This is useful but narrow. Equally important is defining overall outcomes and having guidelines for shaping strategies. Organizational practices that include or go beyond metrics mediate between strategy and outcomes and constitute a critical aspect of any business.

Seeing different sustainability frameworks as working at different

management levels clarifies their interdependency and potential complementarity. (See “Integrating Frameworks Across Levels,” p. 49.) It also reminds us that management systems must be homegrown. Strategic guidelines and organizational metrics and practices must be tailored to the specific people, culture, market, technology and history of any enterprise. For example, NIKE Inc., a company that prides itself on innovation for vitality and more healthy personal life styles, naturally gravitated to biomimicry — innovation inspired by nature. Today, led by hundreds of independent designers who are part of Nike’s larger network, the company is introducing a range of “biomimetic” innovations such as compostable cloth, shoes that are put together with biodegradable adhesives and an entire line of organic cotton athletic apparel. (Nike even helped to launch the Organic Cotton Exchange to bring more organic cotton onto the world market.) Translating

About the Research

Data for this research were collected and analyzed by a team of four researchers who, over a six-year period, participated in more than a dozen meetings of the SoL Sustainability Consortium as well as being participant observers in all the collaborative projects. Using traditional ethnomethodology, researchers took extensive field notes of each of the consortium meetings and discussed these in post hoc research teleconferences. In addition, 42 semi-structured interviews with participants were conducted, recorded and transcribed over a two-year period. Participants were asked about specific collaborative experiences, as well as their personal and business aspirations for the consortium as a whole. In order to gain a diversity of views, the research team chose individuals representing a range of organizational ranks (senior, mid-level, and junior) and attendance levels (core, frequent, and recent). Data were analyzed and coded for emergent themes, using inductive qualitative methods appropriate for exploratory research.ⁱ At the same time, individual case studies of collaborative projects were developed and compared in order to identify emergent routines and practices being transferred across projects.ⁱⁱ We analyzed all these data for the presence of drivers and interaction patterns within the consortium as a whole, eventually developing a single system map that identified the three domains discussed here.ⁱⁱⁱ

The study has been guided by the principles of participatory action research^{iv} and community action research,^v aiming to build a community that builds knowledge in a way that binds together the community. Thus, the researchers actively participated in meetings and projects and, in addition, they periodically presented interpretations from their research engaging participants, facilitators and organizers in regular dialogues on its implications.

i. J.M. Corbin and A.L. Strauss, “The Articulation of Work Through Interaction,” *Sociological Quarterly* 34, no. 1 (March 1993): 71-83; and M.B. Miles and A.M. Huberman, “Qualitative Data Analysis” (Thousand Oaks, California: Sage, 1994).

ii. R.K. Yin, “Case Study Research: Design and Methods” (Beverly Hills, California: Sage Publications, 1984); and K.M. Eisenhardt and L. J. Bourgeois, III, “Building Theories From Case Study Research,” *Academy of Management Review* 14, no. 4 (October 1989): 532-550.

iii. H. Bradbury, D. Good and L. Robson, “What Keeps It Together: Relational Bases for Organizing,” in “Creating Collaborative Cultures,” ed. S. Shuman (San Francisco: Jossey-Bass/Wiley, in press).

iv. P. Reason and H. Bradbury, “Introduction: Inquiry and Participation in Search of a World Worthy of Human Aspiration,” in “Handbook of Action Research: Participative Inquiry and Practice,” ed. P. Reason and H. Bradbury (London: Sage Publications, 2001), 1-14; and C.D. Argyris, B. Smith and B. Putnam, “Action Science: Concepts, Methods and Skills For Research and Intervention” (San Francisco: Jossey-Bass, 1985).

v. C.O. Scharmer and P. Senge, “Community Action Research,” in “Handbook of Action Research: Participative Inquiry and Practice,” ed. P. Reason and H. Bradbury (London: Sage Publications, 2001), 238-249.

Clarity must not come at the expense of oversimplification and trivialization of complex issues. Conceptual working groups can sometimes produce rousing action agendas that include little penetrating insight.

general ideas into specific organizational strategies, practices and objectives takes imagination, courage, persistence, patience and passion. In its final report, the consortium subgroup concluded, “The sustainability challenge is fundamentally a learning challenge, a process that requires both ‘outer changes’ like new metrics and ‘inner changes’ in taken-for-granted assumptions and ways of operating.”²⁴

Lessons From the Conceptual Work The learnings from conceptual work done on particular projects suggest the need for collectively built frameworks that create clarity without denying complexity.

Build community through thinking together and sharing.

When faced with difficult conceptual tasks, it is faster and easier to leave the work to small groups of experts or to outsource it to consultants or academics. But doing so bypasses the collective intelligence embedded in diverse organizations and industries and can result in output for which there is neither deep understanding nor commitment. In contrast, when conceptual frameworks are developed collaboratively, the process builds community and fosters more extended application and testing. As one member reflected, “Working together to make sense of the different sustainability frameworks showed us that we were not the only company who was confused about sustainability and helped us communicate what sustainability meant in terms of outcomes and strategies in a way that worked in our culture.”²⁵

Achieve simplicity without reduction.²⁶ Clarity must not come at the expense of oversimplification and trivialization of complex issues. Conceptual working groups can sometimes produce rousing action agendas that include little penetrating insight; similarly, turgid analyses of complex issues can leave people better informed but no more able to take action. Nevertheless, tools like system dynamics²⁷ and stock-flow diagrams (see “Naturalism and Sustainability,” p. 50) can help in digesting the complexity of a problem while communicating key features that guide action. Simple system models highlight key variables and key interrelationships.

Relational Work: Dialogue and Collaborative Inquiry

Success in any collaboration between organizations rests on the quality of relationships that shape cooperation, trust, mutuality

and joint learning.²⁸ But supporting relationship building is not easy, given the competitive culture and transactional relationships typical in organizational life. Only rarely do groups move beyond “politeness” or win-lose debates into more authentic and reflective interactions characterized by candor, openness and vulnerability.

From its inception, members of the SoL Sustainability Consortium were committed to skills of reflective conversation and working with mental models as a way to build more productive relationships. As part of bringing new members into the community, a half-day, premeeting workshop introduced basic tools of organizational learning; specific ground rules for effective conversation were made explicit, including such things as confidentiality, radical respect for each other, the imperative to “listen, listen, listen” and inquiry balanced with advocacy. These steps were especially useful in ongoing projects in which people deepened their understanding of one another through genuine dialogue.

Illustrative Relational Projects: Women Leading Sustainability

The first Women Leading Sustainability dialogue was held in 2001 to explore the distinctive nature of women’s leadership in sustainability initiatives. Over the years, participants developed a repository of the group’s experiences, including stories about leading sustainability initiatives, reflections on personal challenges and lessons learned through the eyes of their children. In these ways, the group has lived the consortium’s dedication to candor and cooperation.

The relational work of WLS has had tangible effects. For example, Simone Amber, founder of a corporate-funded, global Internet-based educational project called SEED, said that the honest dialogue of WLS helped her see how far sustainability efforts go toward helping others, especially those in developing countries. In WLS, participants’ motivation for working on sustainability goes beyond business benefits by integrating work, family and self; and the members have developed a sense of purpose, fueled by a desire for their work to benefit others. These successes are embodied in the group’s description of itself: “What matters most about this group is that we assert the importance of taking time for reflection so that our learning evolves through integrating action and reflection.” Action and reflection are necessary for good decision making, yet in today’s “just do it” culture, time for learning is rarely practiced or valued.

Describing Different Sustainability Frameworks

When the Society for Organizational Learning first organized in 1999, one of its first conceptual projects was to find a way to integrate and relate the existing sustainability tools and frameworks.

The Natural Step was founded by the Swedish researcher Karl-Henrik Robèrt in 1989, who developed the following scientifically based consensus definition of sustainability: In a sustainable society, nature is not subject to systematically increasing (1) concentrations of substances extracted from the earth's crust; (2) concentrations of substances produced by society; and (3) degradation by physical means; and in that society, people are not subject to conditions that systematically undermine their capacity to meet their needs.

Natural capitalism is a strategic framework based on four precepts: (1) radically increase the productivity of resource use; (2) shift to biologically inspired production (for example, biomimicry) with closed loops, no waste and no toxicity; (3) shift business models away from the making and selling of "things" to providing the service that the "thing" delivers (thereby retaining ownership of products for recycling and remanufacturing); and (4) reinvest in natural and human capital.

ISO 14001 was first published in 1996 and specifies the operational requirements for an environmental management system, providing generalizable

objectives and goals with measurable metrics that can guide the environmental activities of organizations in most industries.

Zero Emissions Research Initiative was launched by the United Nations University/Institute of Advanced Studies in 1994 and was renamed Zero Emissions Forum in 1999. ZERI promoted the concept that all industrial inputs can be completely converted into a final product and that waste products can be converted into value-added inputs for another chain of production. In this context, the manufacturing line can be viewed as a series of production cycles and recycling systems.

Biomimicry studies nature's models and imitates or takes inspiration from these designs and processes to create products and human processes. Based on research from multiple disciplines, biomimicry provides a framework for valuing not what we can extract from the natural world but what we can learn from it.

The World Business Council for Sustainable Development brings together 180 international companies in a shared commitment to sustainable development through economic growth,

ecological balance and social progress. The WBCSD has developed a set of eco-efficiency indicators to help measure progress toward economic and environmental sustainability in business.

"Ecological footprints" was first coined in 1992 by the Canadian ecologist William Rees, and is used to manage the use of resources throughout the economy by measuring the total environmental impact of business.

Life-cycle analysis enables a manufacturer to quantify how much energy and raw materials are used and how much solid, liquid and gaseous waste is generated at each stage of a product's life from creation up to and including the end of its period of use.

Cradle to cradle articulates a set of principles that seek to transform manufacturing design from being purely opportunistic to focusing on the service that products provide. One key principle is the total elimination of waste in manufacturing; all components of manufactured goods would be recycled or reused, thus reversing the "cradle-to-grave" model that governs existing industry.

Lessons From the Relational Work The learnings from relational work done on particular projects suggest that the work must begin with far-reaching and unorchestrated dialogue that in turn sets the tone for systematic initiatives and practices.

Dialogue groups emerge from deep questions and longings. Although it is easy to focus on formal strategies and the mechanics of change, we shape our collective futures in "conversations that matter."²⁹ For example, the Women Leading Sustainability group explored how to connect their "inner" and "outer" lives, how to

develop a career path that can provide leadership within the corporation while also being consistent with their core values and how best to engage stakeholders far beyond their organizations. Such conversations help clarify important issues and provide a "lived experience of how we naturally self-organize to think together, strengthen community, share knowledge and ignite innovation."³⁰

Identifying powerful questions cannot be orchestrated or planned. They emerge over time with shifts in strategic context. The key is to recognize and engage them seriously in a spirit of dialogue and joint exploration. For example, John Browne, chief

executive officer of BP p.l.c., has arguably done as much to legitimize the importance of climate change in the business world as anyone over the last decade. This started with a day-long meeting of climate scientists and a handful of BP top executives in 1996. “The very fact that we took a whole day on this issue was significant,” says former BP chief scientist Bernie Bulkin. “Prior to that, this was a subject that might have gotten 20 minutes on a management team meeting agenda. But, I remember Brown saying that, ‘We are grownups. We can think these things through on our own and find out what we really believe. Maybe we come to the same conclusion as the industry association, or maybe we come to a different conclusion.’” This “thinking together” eventually resulted in a historic speech Browne gave at Stanford University, in Stanford, California, in 1997, in which for the first time in public a CEO of a major oil company broke ranks with peers. He declared that it was sufficiently likely that climate change actually was occurring to warrant serious action, and he announced a series of initial commitments that BP would make unilaterally to reduce its emissions and begin investing in alternative technologies.

Nurturing relational space can be systematic and purposeful.

Although the deep questions that drive dialogue cannot be overly planned, there are ways to encourage a relational ecology out of which initiatives will self-organize. For example, many of the founders of Women Leading Sustainability brought specific methods to the group, like personal check-ins and basic principles of dialogue and learning. The provision of free space is a must — and perhaps is the most challenging. Although it sounds simple, free space to simply explore what emerges is virtually nonexistent for today’s busy managers.

Once it is recognized and legitimized, deepening relational space also infuses results-oriented work. Effective relational work encourages diverging conversations, asks difficult questions and helps confront dysfunctional practices and attitudes in our organizations and ourselves. Such capacities also benefit action-oriented change initiatives.

Action-Driven Work: Building Collaborative Change Initiatives

Conceptual and relational work are important for effective collaboration, but they are especially important as they come together to enable whole new levels of action. Effectively weaving together all three dimensions requires a new approach that is more personal *and* more systemic than traditional planned-change approaches.

Illustrative Action-Oriented Projects: Collaborating For Innovation in Food Systems Although most consumers in wealthier countries are unaware of problems with global food systems, these are the largest drivers of poverty, social and political instability and local

environmental deterioration worldwide. For example, falling prices for coffee have created a “crisis for 25 million coffee producers around the world, [many of whom] now sell their coffee beans for much less than they cost to produce.”³¹ Long-term trends of falling prices for major agricultural commodities — 40%–90% declines over the past 50 years for wheat, soy, maize, potatoes, dry beans and cotton — relentlessly drive down farmer incomes.³¹ Whereas wealthy countries like the United States buf-

Integrating Frameworks Across Levels

Different sustainability frameworks relate to different levels in the management system. Companies often develop customized or home-grown versions that combine elements of various frameworks.



fer farmers with over \$500 billion in annual agricultural subsidies, developing countries do not have that luxury. As a result, the increasing production needed to meet demand and offset falling incomes leads to vast environmental degradation (for example, over 1.2 billion hectares of topsoil has been lost in the past 50 years — more than the area of China and India combined) as well as increasing worldwide water shortages, since 70% of water use is for agriculture. And yet, despite increases in production, 800 million people remain chronically underfed.

The Sustainable Food Lab project was organized around an innovative approach to weaving together conceptual, relational and action space and included about 40 upper-middle and senior

leaders.³³ These leaders were committed to a deeply personal action-learning process consisting of three phases: (1) cosensing in order to develop shared understanding of current and emerging realities, (2) coinspiring in order to share new knowledge and commitment, and (3) cocreating in order to design prototypes and pilot a small number of innovations conceived by the lab team. The process began with extended dialogues that brought out the different worldviews within the group, followed by five-day “learning journeys” to Brazil designed to immerse team members in the realities of the food system.³⁴ Time for reflection and dialogue offered windows into people’s different views of reality.

In the midst of a subsequent eight-day retreat for reflection and planning, lab team members undertook two-day wilderness “solos” to catalyze deeper intuitions and commitments. “In many ways, the sustainability challenges stem from losing touch with the larger natural and social world, so these solos seem important,” said project coordinator Hal Hamilton. In this case, when the work finally turned to formulating prototyping initiatives, the group discovered new levels of trust, commitment and energy. Eventually, eight different prototyping initiatives and associated teams formed, vetted their aims and wrote initial plans

for getting to work. Several of these initiatives have evolved into ongoing action projects in three areas: (1) creating shared standards for sustainable food production so that farmers, buyers and the financial community can influence sound production practices, (2) restructuring specific supply chains to increase opportunities for small and mid-size farmers and fishermen, and (3) generating a “demand pull” for more sustainably produced goods and for policies that reward sustainability.

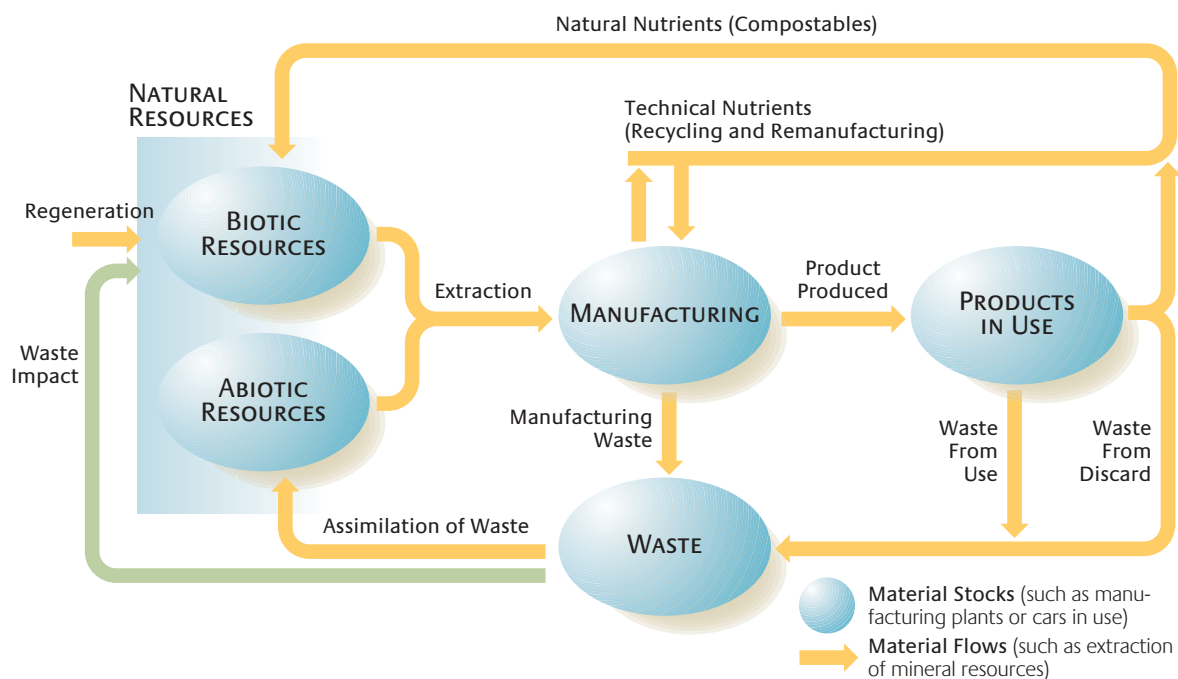
The overall success of this approach to developing action projects was summarized by one of the business participants in the following way: “It amazes me that you can take a group that has been doing individual things and build such a huge amount of trust.”

Lessons From the Action-Oriented Work The learnings from action-oriented work done on particular projects suggest the need to take time to gather input from all stakeholders so that true systemic thinking can give rise to sometimes radically innovative action.

It can take significant time to bring together the diversity of players needed for effective collaborative action. The initial

Naturalism and Sustainability

The diagram below identifies three key waste streams: manufacturing (extraction and production), use and discard. According to this framework, an industrial system is moving toward being in harmony with nature when (1) stocks of both biotic and abiotic natural resources are not being depleted faster than their regeneration rates; and (2) all types of waste move toward zero by (3) being converted into “nutrients” for other industrial or biological processes.



“The awareness of sustainability has been growing because systems thinking is enabling us to see more interdependencies. It is reckless to think of commercial sustainability in isolation from social or environmental sustainability.”

founders of the Sustainable Food Lab — Unilever, Oxfam, the Kellogg Foundation and the Global Leadership Initiative — spent over two years gathering a sufficiently large and diverse network to undertake the project. While the scale of the challenge is huge, in this case “getting the system in the room” — meaning that the people who are present should represent all aspects and stakeholders of the problem being explored — is a common principle for all system-change processes. This is challenging not only because of the time and effort involved but also because it includes people who will see the world very differently. By defining the project as a cross-sector, multistakeholder initiative, the founders not only signaled that it would take time to engage an appropriately diverse group of participants but also that it would take time to eventually generate action projects for which such diverse participants could truly collaborate.

Systems thinking is essential for change, but it also can be messy and uncomfortable. According to Andre van Heemstra, a management board member at Unilever where the food lab was founded, “The whole awareness of sustainability (in the corporate world) has been growing because systems thinking, in different forms, is enabling us to see more interdependencies than we have seen in the past. It is those interdependencies that make you conclude that it is more than stupid — it is reckless to think of commercial sustainability in isolation of either social or environmental sustainability.” As a conceptual tool, systems thinking can help to clarify interdependencies and complex change dynamics.³⁵ But at the same time, seeing systems *together* means allowing for different, sometimes conflicting views.

Radical methods are needed for collaborative action work. The basic toolbox from the organizational learning field — which includes systems thinking, building shared vision and working with mental models and dialogue — is a useful starting point in collaborating for systemic change, but it is just a starting point. New approaches for organizing complex change processes and for large-scale dialogue like the World Café³⁶ — a process for leading collaborative dialogue and knowledge sharing, particularly for larger groups — will also be needed. Traditionally, group and team dynamics approaches have sought to foster deep personal and interpersonal work, but much less is known about

opening minds, hearts and wills across networks that cut across diverse organizational boundaries.

The Collaboration Imperative

Business as usual is reaching an evolutionary dead end. Efficiency improvements are useful but limited and, if extended too far, become counterproductive. It is hard to have healthy businesses, no matter how efficient, in unhealthy social and environmental systems.

Businesses, governments and NGOs increasingly will confront complex sustainability problems for which isolated efforts are inadequate. Transactional models for improvement (pay for performance, rewards and punishments, benefit-cost relationships, fear as the primary motivator) have never sufficed for dealing with transformational or “adaptive” change, which requires a new mandate for learning across organizations, industries and sectors. We are at the very beginning of recognizing and responding to this historic shift, and we need to learn as quickly as possible.

Distinct but Not Separate Approaches Although it is convenient for analytic purposes to distinguish the conceptual, relational and action domains, our experience suggests that they interpenetrate each other in important ways. True systemic change means enacting new ways of thinking, creating new formal structures and, ultimately, transforming relationships. As Hal Hamilton of the food lab says, “The relationships among leaders across normal boundaries might be the most crucial ingredient to major change.”

Interweaving conceptual, relational and action work is especially relevant for the cross-sector collaboration needed for many of the “big issues” confronting society. But there is little precedent for such collaboration — protagonists from different sectors often focus on building political leverage and power rather than creating new knowledge and possibilities together.³⁷ Only by integrating our thinking, relating and acting will projects like the food lab become more common and successful.

Leadership and Transactional Networks While the limits of transactional ways of interacting are apparent, generating change at a scale that matters often requires engaging large communities of diverse participants with different motivations. Efforts like the

Leadership networks function like communities, transactional networks like markets. Markets are only viable when actors perceive that benefits exceed costs. By contrast, communities revolve around a larger purpose.

food lab, by virtue of the deep personal and interpersonal work involved, have many members who share a strong commitment to the success of the enterprise as a whole. But specific projects also must involve a larger number of individuals and organizations in order to be viable. This means including people and organizations that are focused on narrower agendas and do not share the same sense of responsibility for the whole.

The resulting leadership and transactional networks operate on different logics. In effect, leadership networks function like communities, whereas transactional networks operate like markets. Markets are only viable when actors perceive that benefits exceed costs. From a transactional perspective, a collaborative effort is attractive when there is a compelling value proposition, a clear “business case.” By contrast, the logic that binds communities revolves around a larger purpose that matters to people. It is not that they are indifferent to benefits and costs, but their primary motivation comes from a commitment to the transcendent aim of sustainable agriculture and its long-term strategic importance for their organizations.

Both types of networks matter for achieving large-scale systemic change. For example, articulating new industry norms that require direct competitors to work together also require enough participants who are genuinely committed to longer-term aims for the industry as a whole. Failing to discern and appreciate these differing motivations can result in stalled initiatives because of an overreliance on transactional players in the early going.

Three Recurring Questions As we progress along this twofold path of collaborating to achieve practical changes and building learning communities capable of ongoing collaboration, we continue to wrestle with three questions.

1. How can we get beyond benchmarking to building learning communities? Benchmarking is a well-established form of cross-organizational learning, but a learning community involves much more than site visits or listening to PowerPoint presentations — it involves disclosure and vulnerability. Learning communities are most evident when people are openly discussing real problems and asking for help, and they grow as people offer help simply because they want to. Over time, they nurture common commitment and relationships based on respect and mutuality. Perhaps the biggest question is: Which people and

organizations will be willing to move beyond more common transactional relationships to build the leadership networks from which such communities grow?

2. What is the right balance between specifying goals and creating space for reflection and innovation? Most collaborative efforts among businesses commence with explicit objectives. But initiatives like the SoL Sustainability Consortium and the Sustainable Food Lab did not; rather, they organized according to a general intention to foster learning communities around broadly articulated sustainability issues. This created a good deal of anxiety but also provided space for exploration. Several short-term projects and dialogue groups materialized but did not achieve the critical mass to continue. On the other hand, no one would have predicted the long-term importance of the Women Leading Sustainability dialogue nor many of the Sustainable Food Lab initiatives aimed at radically shifting social and environmental conditions. These unforeseen developments and larger webs of collaborations would have been unlikely if the issues agenda were predetermined or driven from a central organizing group.

3. What is the right balance between private interest and public knowledge? There is much artistry in building collaborative systemic change initiatives, but at the same time, most of the key members of such networks are from for-profit businesses seeking competitive advantages. Commercial interests and proprietary know-how must be balanced with public interests when tackling systemic issues. SoL believes that balancing private and public interest means focusing on issues that are larger than individual organizations, improving the related systems that can benefit all and respecting that it takes healthy organizations to address these issues. In this sense, balancing public and private interests resembles the mantra of all great teams and healthy communities: It’s up to each of us, and no one can do it alone.

REFERENCES

1. B. Halweil, “Home Grown: The Case for Local Food in a Global Market,” November 2002, www.worldwatch.org/pubs/paper/163.
2. See www.unilever.com/ourvalues/environmentandsociety/sustainability/fish/default.asp; www.msc.org; and B. May, D. Leadbitter, M. Sutton

- and M. Weber, "The Marine Stewardship Council (MSC)," in "Eco-labeling in Fisheries: What Is It All About?" ed. B. Phillips, T. Ward and C. Chaffee (Oxford: Blackwell Science, 2003), 14-33.
3. P.E. Steinberg, "Fish or Foul: Investigating the Politics of the Marine Stewardship Council" (paper presented at the Conference for Marine Environmental Politics in the 21st Century, Berkeley, California, April 30-May 2, 1999), globetrotter.berkeley.edu/macarthur/marine/papers/steinberg-1.html.
 4. S. Waddell, "Societal Learning and Change: How Governments, Business and Civil Society Are Creating Solutions to Complex Multi-Stakeholder Problems" (Sheffield, UK: Greenleaf Publishing, 2005).
 5. See www.solsustainability.org; S. Schley and J. Laur, "The Sustainability Challenge: Ecological and Economic Development," *The Systems Thinker* 7, no. 7 (September 1996): 1-7; and C.O. Scharmer and P. Senge, "Community Action Research," in "Handbook of Action Research: Participative Inquiry and Practice," ed. P. Reason and H. Bradbury (London: Sage Publications, 2001), 238-249.
 6. P.M. Senge, "The Fifth Discipline: The Art and Practice of the Learning Organization" (New York: Currency Doubleday, 1990/2006); P.M. Senge, A. Kleiner, C. Roberts, R. Ross and B. Smith, "The Fifth Discipline Fieldbook: Strategies and Tools For Building a Learning Organization" (New York: Currency Doubleday, 1994); G. Roth and P.M. Senge, "From Theory to Practice: Research Territory, Processes and Structure At an Organizational Learning Centre," *Journal of Organizational Change Management* 7, no. 5 (February 1996): 92-106; and www.solonline.org.
 7. P.M. Senge and G. Carstedt, "Innovating Our Way to the Next Industrial Revolution," *MIT Sloan Management Review* 42, no. 2 (winter 2001): 24-38; and J. Ehrenfeld, "Learning and Change in the SoL Consortium" (presentation at the Harley-Davidson Consortium meeting, Milwaukee, Wisconsin, April 9-11, 2003), www.solsustainability.org/toolkit.htm.
 8. For a more comprehensive list and short analysis of 21 different frameworks, see J. Elkington, "Triple Bottom Line Reporting," 2003, www.ccc.govt.nz/TripleBottomLine.
 9. See <http://www.naturalstep.org>.
 10. P. Hawken, A. Lovins and L. Hunter Lovins, "Natural Capitalism: Creating the Next Industrial Revolution" (Boston: Little, Brown, 1999).
 11. See <http://www.iso14000.com>.
 12. See <http://www.zeri.org>.
 13. J.M. Benyus, "Biomimicry: Innovation Inspired By Nature" (New York: Morrow, 1997); and www.biomimicry.net.
 14. H.A. Verfaillie and R. Bidwell, "Measuring Eco-Efficiency: A Guide to Reporting Company Performance" (Geneva: World Business Council for Sustainable Development, 2000).
 15. A. Sturm, M. Wackernagel and K. Müller, "The Winners and Losers in Global Competition: Why Eco-Efficiency Reinforces Competitiveness: A Study of 44 Nations" (Zürich: Verlag Rüegger, 2000); and www.ecologicalfootprint.com.
 16. See United Nations Environment Program/Society of Environmental Toxicology and Chemistry cooperation on best available practice in life-cycle assessment, www.setac.org/lca.html.
 17. W. McDonough and M. Braungart, "Cradle to Cradle: Remaking the Way We Make Things" (New York: North Point Press, 2002).
 18. B.J. Bulkin, J. Ehrenfeld, C. Gray, P. Morris, R. Saillant, T. Savino, T. Reese and P.M. Senge, "Integrating Frameworks For Sustainability," working paper, SoL Sustainability Consortium, Cambridge, Massachusetts, May, 2000 (revised, January 2002), www.solonline.org.
 19. These three terms were influenced by the writings of John Ehrenfeld. For example, see J. Ehrenfeld, "Searching for Sustainability: No Quick Fix," *Reflections* 5, no. 8 (2004): 1-12.
 20. World Commission on Sustainable Development; see www.un.org/esa/sustdev/csd/csd.htm.
 21. J. Benyus, "Biomimicry" (New York: Morrow, 1997).
 22. See www.un.org/Overview/rights.html.
 23. A similar project is now underway among consortium members, seeking to clarify the social dimensions of sustainability. See SoL Societal Dimensions Workgroup, "Social Dimensions of Sustainability Frameworks Document" (presentation at SoL Sustainability Consortium, Brewster, Massachusetts, April 26-28, 2005), www.solsustainability.org.
 24. The Working Group on Sustainability Frameworks, SoL Sustainability Consortium, *Integrating Frameworks for Sustainability* (Cambridge, Massachusetts, April 2001), www.solsustainability.org/toolkit.htm.
 25. Anthony Reese, director of engineering planning, Harley-Davidson Motor Company, 2004.
 26. This phrase is a favorite of Karl-Henrik Robèrt, the Swedish oncologist and pioneer of The Natural Step framework.
 27. G.P. Richardson, "Feedback Thought in Social Science and Systems Theory" (Philadelphia: University of Pennsylvania Press, 1991); and Senge et al., "Fifth Discipline Fieldbook," 1994.
 28. Y.L. Doz and G. Hamel, "Alliance Advantage: The Art of Creating Value Through Partnering" (Boston: Harvard Business School Press, 1998); and L.C. Abrams, R. Cross, E. Lesser and D. Z. Levin, "Nurturing Interpersonal Trust in Knowledge-Sharing Networks," *Academy of Management Executive*, 17, no. 4 (2003): 64-77.
 29. J. Browne and D. Isaacs, "The World Café: Shaping Our Future Through Conversations That Matter" (San Francisco: Berrett-Koehler, 2005), 5.
 30. Ibid.
 31. Oxfam International, "Mugged: Poverty in your Coffee Cup" (Oxford, United Kingdom: Oxfam 2002).
 32. Food and Agriculture Organization of the United Nations, "The State of Agricultural Commodity Markets," 2004, www.fao.org/docrep/007/y5419e/y5419e00.htm.
 33. Business participants included Unilever, General Mills, Rabobank, SYSCO (the world's largest food distributor), Nutreco (the world's largest fish farming company) and Sadia (one of Brazil's few multinational food companies), along with smaller food companies and farm cooperatives. Senior government officials from Europe and South America were involved, along with global NGOs like Oxfam, World Wildlife Fund, Consumers International and The Nature Conservancy and local NGOs from Suriname, Brazil, the United States, the Netherlands, Italy and Germany.
 34. Scharmer describes the method-of-learning journey in C.O. Scharmer, "Theory U: Learning From the Future As It Emerges" (Cambridge, Massachusetts: SoL, in press).
 35. Sustainability Institute Report, "Commodity Systems Challenges: Moving Sustainability into the Mainstream of Natural Resource Economics," (Hartland, Vermont: Sustainability Institute 2003); and www.sustainer.org/tools_resources/pers.html.
 36. Brown and Isaacs, "World Café"; and Senge, "Fifth Discipline," 357-360.
 37. As a comparison, see R. Bouwen and T. Taillieu, "Multi-Party Collaboration As Social Learning For Interdependence: Developing Relational Knowing For Sustainable Natural Resource Management," *Journal of Community and Applied Social Psychology* 14 (2004): 137-153.

Reprint 48211. For ordering information, see page 1.

Copyright © Massachusetts Institute of Technology, 2007. All rights reserved.

MIT Sloan

Management Review

PDFs ■ Reprints ■ Permission to Copy ■ Back Issues

Electronic copies of MIT Sloan Management Review articles as well as traditional reprints and back issues can be purchased on our Web site: www.sloanreview.mit.edu or you may order through our Business Service Center (9 a.m.-5 p.m. ET) at the phone numbers listed below.

To reproduce or transmit one or more MIT Sloan Management Review articles by electronic or mechanical means (including photocopying or archiving in any information storage or retrieval system) **requires written permission.** To request permission, use our Web site (www.sloanreview.mit.edu), call or e-mail:

Toll-free in U.S. and Canada: 877-727-7170
International: 617-253-7170
e-mail: smrpermissions@mit.edu

To request a free copy of our article catalog,
please contact:

MIT Sloan Management Review
77 Massachusetts Ave., E60-100
Cambridge, MA 02139-4307

Toll-free in U.S. and Canada: 877-727-7170
International: 617-253-7170
Fax: 617-258-9739
e-mail: smr-orders@mit.edu