

Mapping communities of practice towards sustainable production and consumption

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This paper explores the challenge of mapping the many practices and approaches aimed at achieving sustainable production and consumption (SPC). Over the past forty years an expanding spectrum of actions and ideas has evolved in response to the social and ecological impacts of unsustainable production and consumption systems. These actions range from consumer boycotts and street protests to eco labels and education campaigns; from innovations in technology and product design to social experiments in community living. These practices are also often tied to dedicated research and analysis to understand the problem and to identify alternative paths forward. The challenge of mapping these actions and paths involves not only assessing the variety and spread of SPC practices around the world but considering the values, interpretive frames and political/cultural contexts shaping these practices. Altogether we have a population of practices, organizations and communities of practice engaged in a collective project aimed at transforming the global economic system. This project is not only difficult to achieve but a challenge to map. A key unit of analysis is the social network; another is the community of practice. Navigating a path through this complex landscape, not to mention locating potential allies and identifying obstacles, calls not only for maps but the sharing of knowledge and experience about the territory. This paper examines some possible schemas and tools to help with this task.

Maps and mapping

The most common function of a “map” is as a navigation tool, a visual representation of a landscape for locating a chosen destination and deciding on the most desirable path to get there. It may also provide an overview of a terrain and its features, revealing the particular topology and special qualities of a place as well as the routes connecting destination and stopping points. Maps can also be used to represent other spatial entities, such as brain mapping or DNA mapping.

This paper explores the challenge of mapping the many practices and approaches aimed at achieving sustainable production and consumption (SPC). Over the past forty years an expanding spectrum of actions, actors and ideas has evolved in response to the social and ecological impacts of unsustainable production and consumption systems. The individuals and organizations involved include those from civil society, government, and business representing

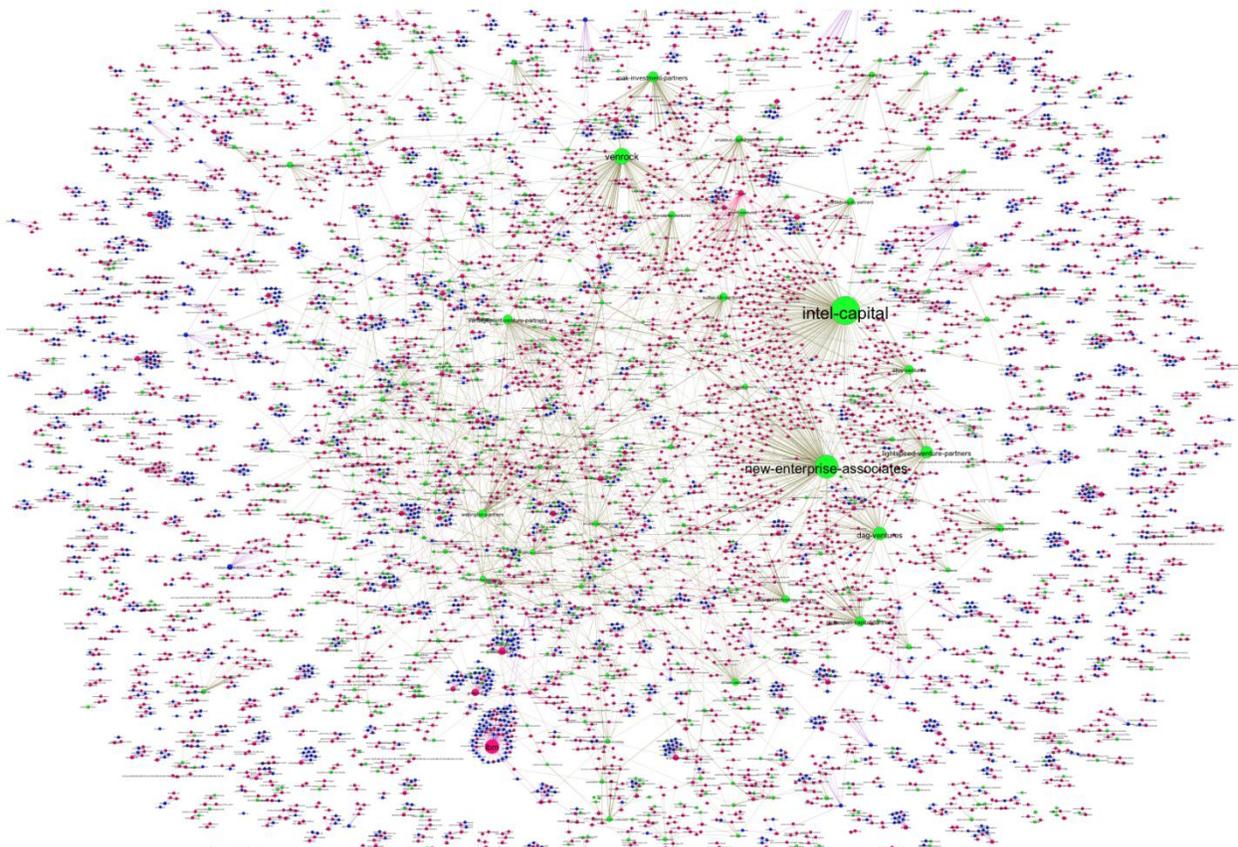
This paper offers a schema (Figure 10-11) for looking more deeply into what could be described as a broad global movement linking many different social movements. However, it may be premature and perhaps incorrect to call this a “social movement” per se; instead we will for the time being refer to the thematic imperative connecting these various actions and actors as a collective “project.”

The communities of practice, however, are a special story. As learning communities they are engaged in ongoing reflection and discussion. In many cases these networks and alliances describe their efforts as a social movement (e.g., the green buildings movement, the green procurement movement, the slow food movement, the fair trade movement).

Mapping these communities of practice involves more than identifying the geographic location of their members or displaying the many interlinkages among groups. These interlinkages are essential, and it is important to learn the lessons of how connections are made and expand. Social network analysis offers unique tools for studying these processes and formations, which can seem overwhelming. We should especially explore social movement research’s use of these tools.¹

Figure 1 presents one social network view of the US environmental movement. Figure 2 presents a network map of the business potential for green technologies.

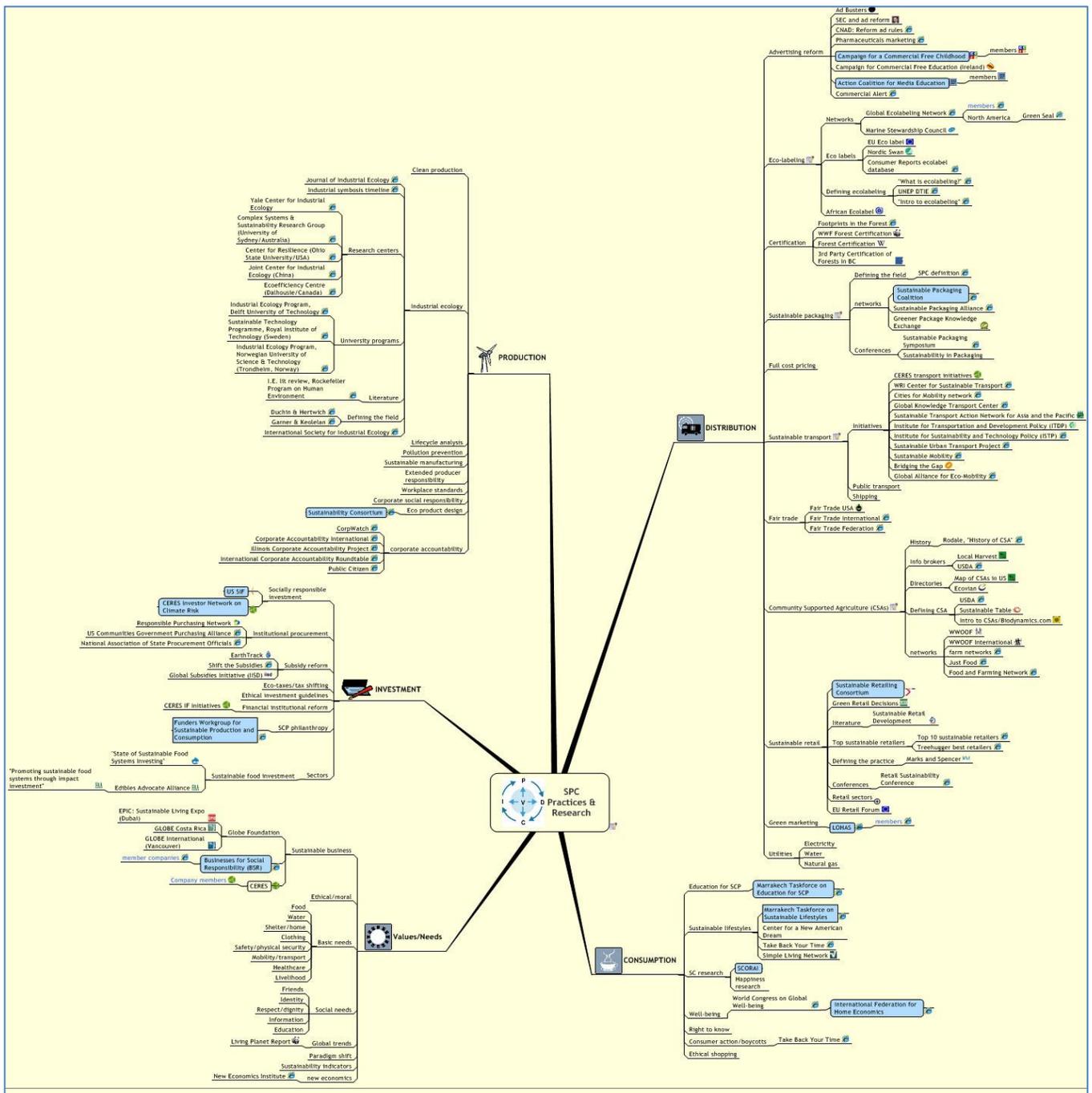
Figure 2 - Potential green tech innovation ecosystem
(Source: Innovation Ecosystems Network; Stanford University)



Whereas most maps tend to represent a particular moment in time, they can also chart the transformation of a landscape across a sequence of time, for example in the maps of shifting continents through the geological eras or in the urbanization of natural habitats over time.

Maps can also be non-spatial, visually representing processes or concepts, such as idea mapping, decision trees, management structures and social networks. Figure 3 presents an initial “mind map” in progress helping to identify organizations linked with different production/ consumption practices and communities of practice.

Figure 3 - Mind map of SPC practices and organizations (Source: ISF)



One popular method increasingly being used is the *geomap* (Figure 4) where we locate SPC practices and research activities on a geographic map of the world. When posted on the internet with hyperlinks to each initiative's profile, geomaps offer an immediate and straightforward tool providing a general overview as well as immediate access to individual examples of research and practices taking place throughout the world.

Figure 4 – Geomapping of SPC practices and research



However, geomaps give us only a rough and static glance at the spatial diversity of work and ideas going on. Considering that the object of these practices is to change production/consumption patterns, we need additional methods to chart their path through the political-economic and socio-cultural landscape. We need to know their chosen direction and objective, the production/consumption patterns they are targeting and aim to change. Each community of practice understandably has their own perspective of the world and of the potential risks and opportunities ahead.

Communities of Practice

Many groups linked by practice and common aims see and describe themselves and their activities not simply as a network or campaign but as a broader “social movement.” Examples of this usage include the voluntary simplicity movement, the slow food movement,² the fair trade movement,³ the green procurement movement,⁴ the green buildings movement,⁵ and many others. The common thread in each of these particular “social movements” is that in contrast to those focusing on a particular problem (war, racism, famine, corruption) or group identity (indigenous peoples, ethnic rights, women, youth) this other set of groups and networks form around a particular sustainability practice. These formations might best be described as *communities of practice*.

This term was popularized by Jean Lave and Etienne Wenger in the early 1990s, first as a theory of “situated learning,” making the point that learning is not strictly an individual process but often a social process, one requiring active engagement, and the sharing of experience and perspectives.⁶

Here we move our focus from individuals and organizations to networks⁷ and coalitions of organizations sharing information, ideas, strategies, around the practices and initiatives in which they are engaged.

Most of these entities do not necessarily describe themselves as “communities of practice,” yet nevertheless display the qualities and behavior Wenger and others highlighted. Given the wide diversity of practices ranging from global advocacy campaigns to personal and household plans for changing habits, the people and groups coming together in these communities of practice share a basic structure combining three fundamental elements, according to Wenger, McDermott and Snyder:⁸ A *domain* of knowledge, which defines a set of issues; a *community* of people who care about this domain; and the shared *practice* that they are developing to be effective in their domain.

Shared features of communities of practice

- Concepts and principles
- Literature (key books, papers)
- Skills, training, education
- Terminology or jargon
- Gatherings (conferences, study groups)
- Goals or aims
- Saints and heroes
- Personal friendships
- Collective history and identity

- The *domain*, whether on social responsibility screening of investment portfolios or cradle to cradle product design, establishes a common ground and identity, clarifying its purpose and value and creating a sense of accountability to a body of knowledge and to development of a specific practice.
- The *community* provides a foundation for shared learning, fostering relationships of trust and mutual respect, together building a common history and identity. Often friendships and interpersonal ties add to the emotional investment and commitment to the work and each other. In addition to the sharing of skills and knowledge, there is reference to a common terminology or jargon, some based on technical concepts and principles, others on handy acronyms for frequently mentioned ideas or organizations, which in turn sharpens the sense of collective identity in contrast to those outside this semantic circle. In many ways these communities act as sub-cultures, as social movements within the larger culture.
- The *practice* “denotes a set of socially defined ways of doing things in a specific domain; a set of common approaches and shared standards that create a basis for action, communication, problem solving, performance, and accountability.” It draws on an existing body of knowledge as well as explores the latest ideas, methods and advances in the field. The practice includes the books, articles, newsletters, journals, websites, databases, blogs, concepts and principles, terminology (i.e., jargon) as well as logic and arguments linked with key ideas and values.

In this paper we focus on the set of communities of practice which, in one way of another, share the common aim of creating a sustainable economy and society – although they may define and visualize this aim quite differently.

Many of these practices, communities and social movements have evolved within the past 40 years in response to key events and expanding knowledge about escalating threats, as well as

technical and social innovations and political opportunities. Each community of practice might be expected to have its own vision and plans for the near future, if not the next 40 years. However, these next four decades will show whether these practices, communities and movements will have made enough of a difference.

Considering the next ten years and beyond, what are the most likely paths ahead? Who could be helpful allies? What practices and communities of practice will be especially critical in reaching this common destination? To answer these questions we must first examine some of the paths already traveled as well as those who traveled them.

Collision course

Between 1800 and 2011 world population grew exponentially from one billion to eight billion, accompanied by increasing demand for the production and distribution of goods and services. Growth of production-consumption systems dramatically increased pressure on ecosystems. In 1972 the Club of Rome published *Limits to Growth*, projecting the potential consequences of ignoring the planet's ecological limits, that this would invite economic collapse.⁹ That summer the United Nations convened in Stockholm its first major conference on international environmental issues, calling upon the nations and world leaders to wrestle with this challenge of balancing economic growth, social development and environmental protection.

The following year, as the "oil crisis" filled the headlines, E.F. Schumacher published *Small Is Beautiful*,¹⁰ noting that our addiction to fossil fuels and abuse of natural capital put modern civilization on a "collision course." To change course, he advised, "We must thoroughly understand the problem and begin to see the possibility of evolving a new life-style, with new methods of production and new patterns of consumption."

The international policy community

Skipping ahead two decades to 1992, we encounter 1,700 scientists including Nobel laureates who have all signed the *World Scientists' Warning to Humanity*, repeating Schumacher and the Club of Rome's warning that "human beings and the natural world are on a collision course," that the developed nations must "greatly reduce their overconsumption, if we are to reduce pressures on resources and the global environment."¹¹

After 20 years of discussions since Stockholm, governments, NGOs and business representatives again agree to meet to discuss what is to be done. The year 1992 is especially noted for the United Nations Conference on Environment and Development ("Earth Summit") in Rio de Janeiro, attended by delegates from 172 countries with 108 heads of state and 17,000 people attending the parallel NGO "Global Forum." The *Agenda 21* report acknowledged that "humanity has reached a turning point" and must "change course." Among other things, these heads of state agreed in Principle 8 of the Rio Declaration that

to achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption.¹²

In January 1994 the Norwegian government held a Symposium on Sustainable Consumption asking: What can and should each sector of society do? What can and should Governments do

nationally? What can be achieved through international cooperation? In May the Second UN Commission on Sustainable Development (CSD) continued this discussion, noting that “the issue of changing consumption patterns was for the first time formally placed on the agenda for multilateral negotiations,” then called for “a unique international forum for fostering multilateral negotiations and promoting action.”¹³

At this same time a global community of practice was forming around the practice of sustainability metrics, with different indicators being developed in order to clearly define targets for assessment and actions. At the CSD, the NGO SPAC Caucus called for “time-bound measurable targets” on production and consumption. In this same year Friends of the Earth launched its campaign promoting the *environmental space* concept, an indicator to measure each country’s national consumption and ecological debt.

In February 1995 the Oslo Ministerial Roundtable on Sustainable Production and Consumption convened, highlighting the need for developed countries to “take the lead” and “put its own house in order.”¹⁴ This meeting, hosted by the Norwegian government, was important in gathering members of government, business and civil society to discuss strategies, policy instruments, roles and responsibilities of different actors, and in identifying some of the questions that needed to be analyzed and researched as well as many of the concepts to be clarified. In addition to working on a proposed plan for research and action, the Roundtable produced a definition of *sustainable consumption*:

The use of goods and services that respond to basic needs and bring a better quality of life, while minimising the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations.

It is important to note that this definition is specifically about *sustainable consumption*, not sustainable production. These are different poles of the production/consumption cycle and should not be comingled, as too often is the practice in current discourse.¹⁵ *Sustainable production* involves the various dimensions of investment and mobilization/ procurement of finance, labor, knowledge, natural and alternative resources throughout the supply chain in the design and creation of sustainable products and processes as well as sustainable livelihoods, these activities all preceding product use, providing alternatives from which consumers are able to choose.

One source of controversy and confusion is the tendency to reduce the topic of sustainable consumption and production (SCP) to a focus primarily on consumption (i.e., “use”) rather than production and consumption as a dynamic system.¹⁶ To avoid confusion we will in this paper use the phrase and acronym *sustainable production and consumption* (SPC), defined as:

A system providing for human needs, improving social and economic security and quality of life for all people, including future generations, while protecting the ecosystems upon which human life depends.¹⁷

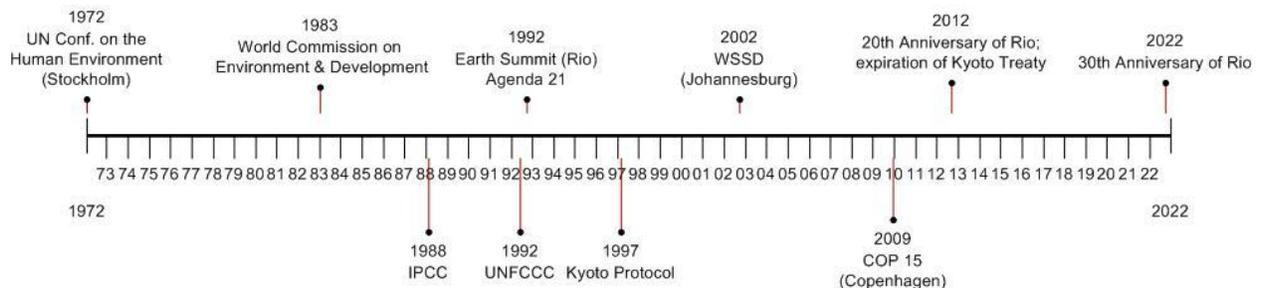
Discussion of the concepts involved in the discourse on sustainable production and consumption continued in April 1995 as the OECD and Norwegian Ministry organized a workshop on “Clarifying the Concepts,” followed in September with the workshop in Seoul on “Policy Measures for Sustainable Consumption and Production.” However, a certain skepticism

began to appear in these latter discussions, such as concern about the “the ‘ideological baggage’ of the limits-to-growth controversy going back to the 1960s, which remains a political problem,” and about the “political acceptability” about the choice of policy instruments.¹⁸

Nevertheless, at the Third Session of the CSD, governments agreed on a proposed multi-year International Work Program, which officially launched in 1996. This work included identifying the policy implications of trends and projections, evaluating the effectiveness of policy measures intended to change consumption and production patterns, and a decision to revise the UN guidelines on consumer protection to include consumption and production. Also that year the OECD reported its intention to include consumption and production patterns in its policy performance reviews and in November a symposium was held in Brazil to “identify the key elements for a shared North-South vision” on changing consumption and production patterns (which added to the list of concerns that “protectionist measures should not be used in the name of environment”).

The the CSD’s five-year review of progress since Rio, in 1997, included progress towards sustainable consumption and production. The UN report concluded that lifecycle analysis (LCA) and eco-labels were useful developments, that strategies aimed at cost-internalization and improved efficiency in resource and energy use were the most promising and cost-effective. However, the review also voiced a distressing observation that we would continue to hear in the following years, that *improvements in awareness and technology were being overtaken by increases in absolute consumption and production.*¹⁹

Figure 5 – International policy negotiations on sustainable development



This was also the year that World Wildlife Fund (WWF) launched its *Living Planet* reports on the global ecological footprint, providing an annual visual image of the growing impact of modern industrial-consumer society on the world. This report continues to be a major source of people’s awareness of the global ecological footprint and state of the environment.

At the CSD, the NGO Caucus on Sustainable Production and Consumption (SPAC Caucus) agreed to organize itself more as an ongoing collaborative community rather than an annual ad hoc gathering continually reinventing itself. To improve our practice we needed to build on our history and experience, develop our discourse and advocacy agenda, and communicate and cooperate more actively if we wanted to make any serious impact on the policy negotiations taking place. The Caucus also agreed to deliberately put “production” in front of “consumption” in its name and communications in order to actively discourage the ongoing the tendency to

reduce the topic only to “consumption”. Another point agreed was to emphasize the linkage between *lifestyle* and *livelihood* as well as the systemic nature of the issue.

Skipping ahead five years to the ten year review of progress since Rio, we were informed by the UN report *Implementing Agenda 21* that “no major changes have occurred since UNCED in the unsustainable patterns of consumption and production which are putting the natural life-support system at peril.”²⁰ In other words, despite Agenda 21’s warning that we were at a historical “turning point,” despite the many meetings and workshops, research and declarations, the international community of governments, businesses and civil society participating in the practice of multilateral negotiations had not yet managed to “change course.”

Defining the destination

After ten years of multilateral negotiations on this topic, the World Summit on Sustainable Development (WSSD) announced in 2002 that

changing unsustainable patterns of production and consumption is [one of the] overarching objectives of, and essential requirements for, sustainable development.²¹

In terms of international policy, this statement negotiated and agreed to by heads of state established an important precedent, adding sustainable production and consumption to the official international definition of “sustainable development” after the Brundtland Report. Countries were called upon to “integrate the issue of production and consumption patterns into sustainable development policies, programmes and strategies, including, where applicable, into poverty reduction strategies.”²²

The *Johannesburg Plan of Implementation* also called upon countries to develop a “10 year framework of programs to support regional and national initiatives to accelerate the shift to sustainable consumption and production.” The NGO SPAC Caucus, International Coalition for Sustainable Production and Consumption and Consumers International had all lobbied for this 10 year framework of programs (10YFP), assuming that this global initiative and UN mandate would be dedicated to overcoming the implementation gap over the coming decade.

Unfortunately the implementation gap continued across the next ten years as well, with the “10YFP” remaining undefined and with neither framework nor programs launched, developed or agreed upon as of 2012. Furthermore, agreement on measures and methods for monitoring progress towards the “overarching objective” has also not bridged this gap.

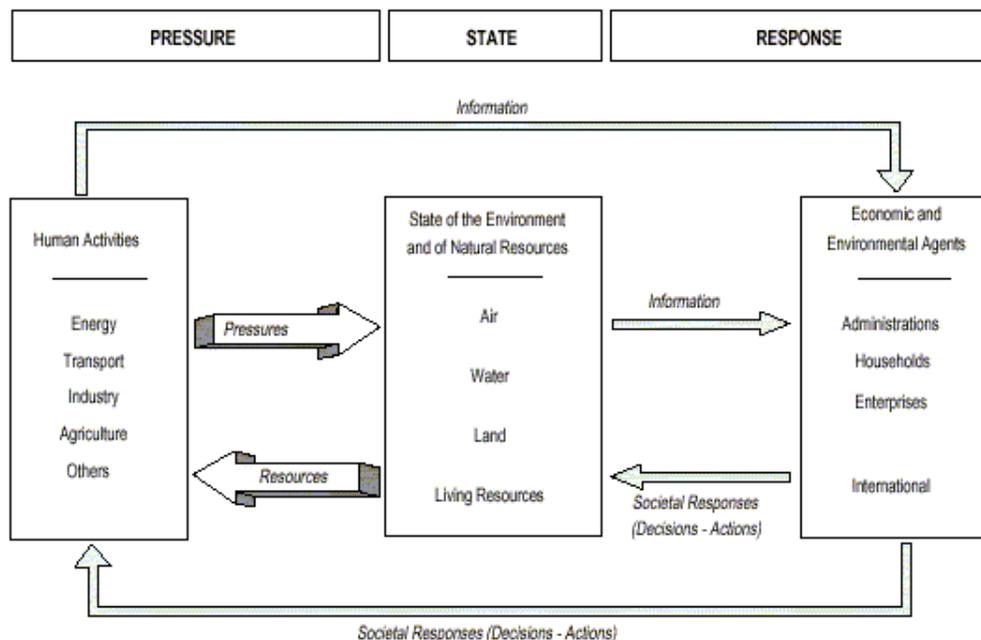
The most familiar global indicators of production and consumption patterns remains the GNP and the flows of goods and services being produced, sold, consumed and discarded through the economy as well as measures of the emissions, waste and pollution and their impacts on the environment and human health and well-being. Ultimately, *the measure of successful progress towards sustainable production and consumption is not in the meetings and reports discussing it but in the reversal of social and environmental trends* driven by those production and consumption patterns.

Measuring progress

Most geographical maps contain a box with scales allowing the user to measure the distance between their present location and intended destination. We need to know how far or near we are to our goal and how long before we can expect to arrive. Sustainability researchers and advocates also need a range of indicators and measures to help assess and guide progress towards regional, national, local and household targets. Communities of practice have their own set of targets and navigational needs, yet they all share direction and movement toward a common chosen destination, however defined or imagined, of a sustainable society.

While there is still no international agreement or coordination on global monitoring of progress in changing unsustainable patterns of production and consumption, there is an evolving tradition and practice of research on sustainable development indicators.²³ Furthermore, a number of countries have adopted or initiated work on national indicators for sustainable production and consumption²⁴ and currently countries are discussing a proposal to develop and monitor global sustainable development goals.

Figure 6 - PSR model
(Source: OECD)



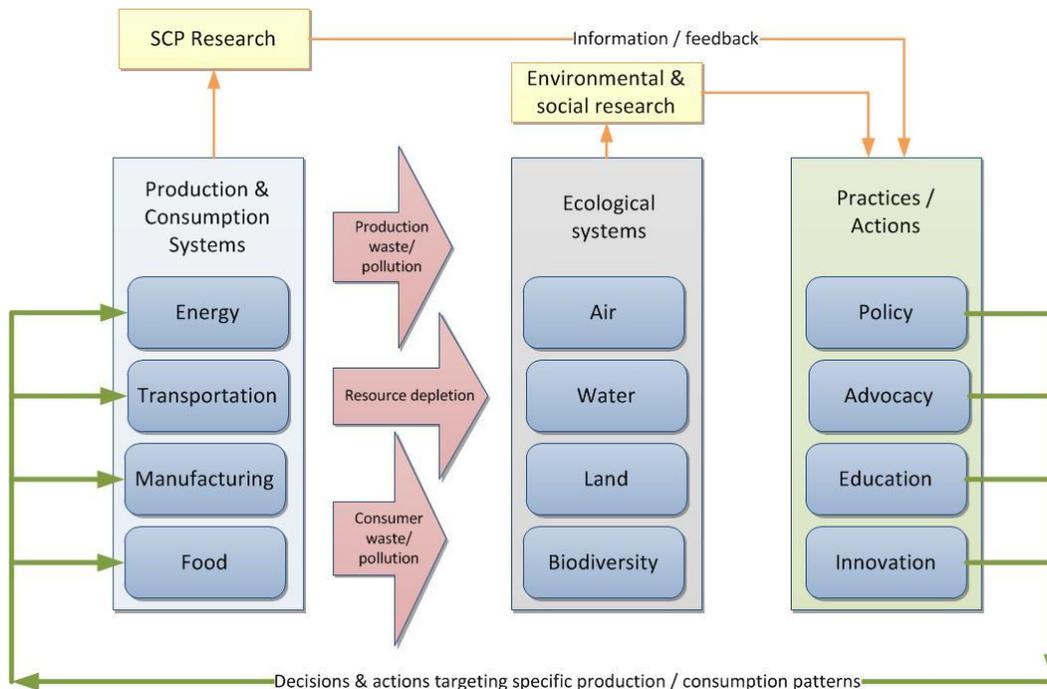
The evolving methodologies and discourse on sustainable development indicators offer a useful framework for locating production and consumption patterns in research and practice. The Pressure-State-Response (PSR) model originally developed by Tony Friend and David Rapport for OECD²⁵ (Figure 6) identifies the “human activities” expressed through sectoral production and consumption patterns (energy, transport, industry, agriculture) under the “pressure” category, thus influencing changes in the “state” of environmental and other systems (i.e., air,

water, land, living resources) which eventually spur “responses” from government, households, and enterprises as well as the international community.

Clearly the *practices* and communities of practice we would like to identify and map fall especially under the “response” category (Figure 7), resulting in decisions and actions aimed to change those production/consumption “pressures” so to turn relieve and hopefully to reverse the “state” of worsening environmental and social trends. Information and feedback on the effectiveness of those decisions and actions take formal shape through the specific branches of policy research and program evaluation. Research on impacts and causes target the other parts of the PSR model.

An extensive amount and range of research concentrates on the *pressure/drivers* dimension – these are the familiar studies focused on the systems of production and consumption involved with specific economic sectors, such as energy, transportation, manufacturing, agriculture, housing, and so on. Other types of production/consumption research and theory cut across the sectors, such as the study of consumer behavior, research on lifestyles and values, studies of organizational behavior, changing corporate culture, and industrial ecology.

Figure 7 - SPC Research and the PSR model
(Source: ISF)



Distinct from the study of the pressures and drivers is research focusing on the *impacts* of those production/consumption drivers on the state of the environment, human health or other quality of life dimensions. These environmental and social research efforts tend to focus on particular problem areas, such as the changing ecosystems, biodiversity, climate, human health

affected by increasing urbanization, proliferation of waste and chemicals, erosion and desertification of soil, hunger, invasive species, human health threats.

Research on *responses* address several different categories of practice and action. For example, some researchers strictly study government policy, legislation and implementation. Others focus on the dynamics of specific advocacy campaigns and social movement strategies challenging the politics and dynamics of power behind certain policies. Another may focus instead on private sector responses, such as changing company behavior and values, the adoption of sustainability principles and strategies. Another area of research focuses on social practices and innovations, such as the Transition Towns movement.

The development of *sustainability metrics* is an essential practice which has in turn inspired and the development and capacity of various networks and communities of practice. Figure 12 maps some of the developments in this area, plotted in conjunction with the international sustainable development policy discussions

Categorizing practices

Sustainability practices can be categorized a number of ways depending on the particular need. Over the years writers have compiled long and elaborate lists of practices, policy instruments, strategies and action plans for changing consumption/production patterns. These in turn have

been divided into different categories, the most basic being whether they focus on consumption, production or both (Figure 8). These can also be further divided into a simple matrix map including the degree a practice is theoretical or research-oriented in contrast to being more practical and “action-oriented”.

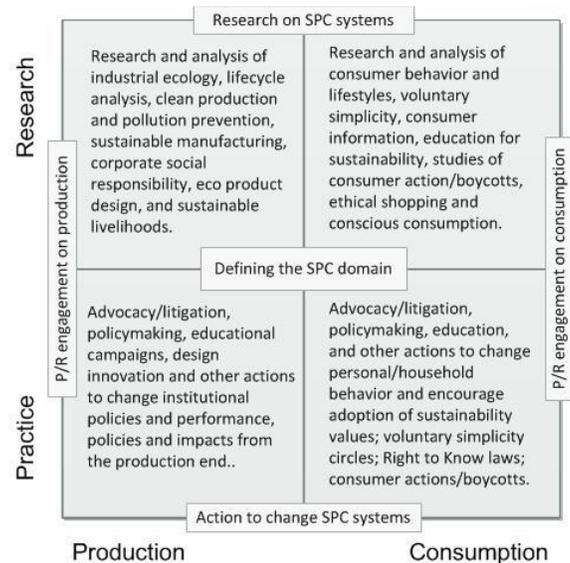
We can also map SPC practices using a three-dimensional matrix bringing together three different areas of focus (impacts/ problems, sectors, strategies).

Some networks develop their practices, initiatives and campaigns according to a particular problem or issue they are addressing, dealing with one or more of the *social or environmental impacts* of unsustainable production and consumption (e.g., climate change, hunger, poverty, endangered species, social justice and human rights abuses, dumping of toxic waste near poor communities).

Others organize their actions and strategies within a particular *production/consumption sector*, industry or company with that sector/industry (e.g., food and agriculture, transportation, energy, housing, water, manufacturing, media).

Still others organize and identify with specific strategies, *policies and initiatives* addressing one or more impacts, within one or more sectors (e.g., institutional procurement, public education,

Figure 8 - Production-consumption/ research-practice matrix



subsidy reform, extended producer responsibility). These three categories are not independent but tend to overlap with each other, sometimes in several different configurations (Figure 9).

There are other categories by which practices and initiatives can be categorized, such as the stakeholder group it is associated with (e.g., trade unions, corporations, environmental groups, social justice groups, local government, national government) or according to geographic location or scope, or according to constituent base or audience. These are all important fields to include in any database of practices and initiatives.

Given the multi-dimensional nature of SPC practices, this paper gives special attention to the *strategic target area for intervention* within a chosen production/consumption system or phase.

Production and consumption, whether of automobiles, shoes, iPods, tanks or ice cream tend to flow along a basic cycle, as product lifecycle analysis has helpfully pointed out. The cycle tends to begin with an initial decision making process leading to **investment** of resources in the **production** and **distribution** of a particular product or service, eventually moving to the point of **consumption** or use, followed by the final destination of the product after it has been used and presumably discarded as **waste**.

There may be many interlinking production/consumption systems and cycles involved in a single product, moving along the supply chain. The decision to produce a new line of automobiles, for example, may lead to a complex series of production/consumption cycles and flows, from the mining and extraction of metals and minerals for the frame, rubber for the tires, paint and plastics for the dashboard and body, electronics, glass, with each of these representing a particular product or service with its own cycle of investment, production, marketing, sales and delivery, consumption or use, as well as waste and emissions.

Each cycle along the supply chain offers a range of potential intervention points where changes can be introduced (Figure 10). Each represents a potential target for social action and strategies.

Figure 9 - Three categories of practices

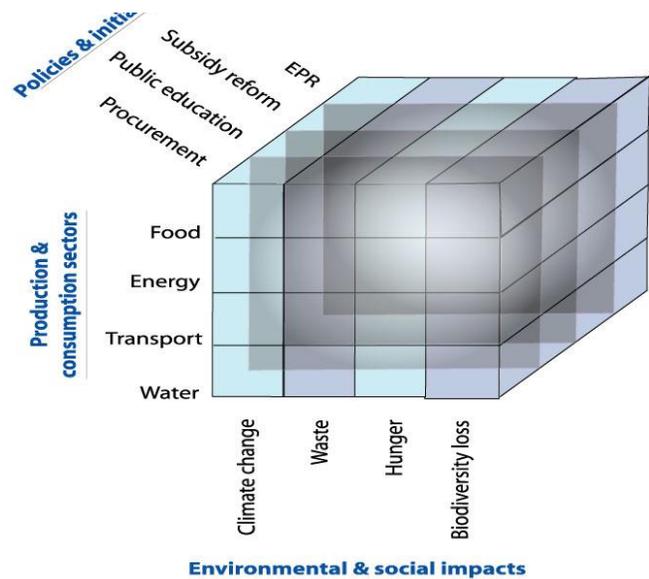
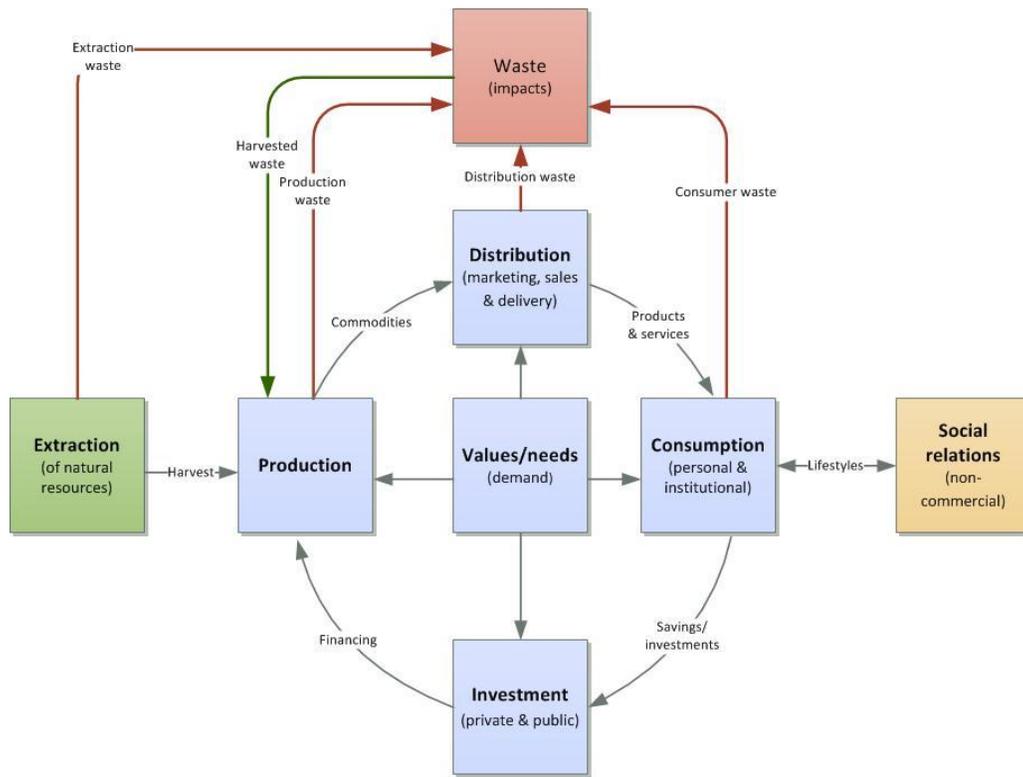


Figure 10 - Sustainable production-consumption system/cycle

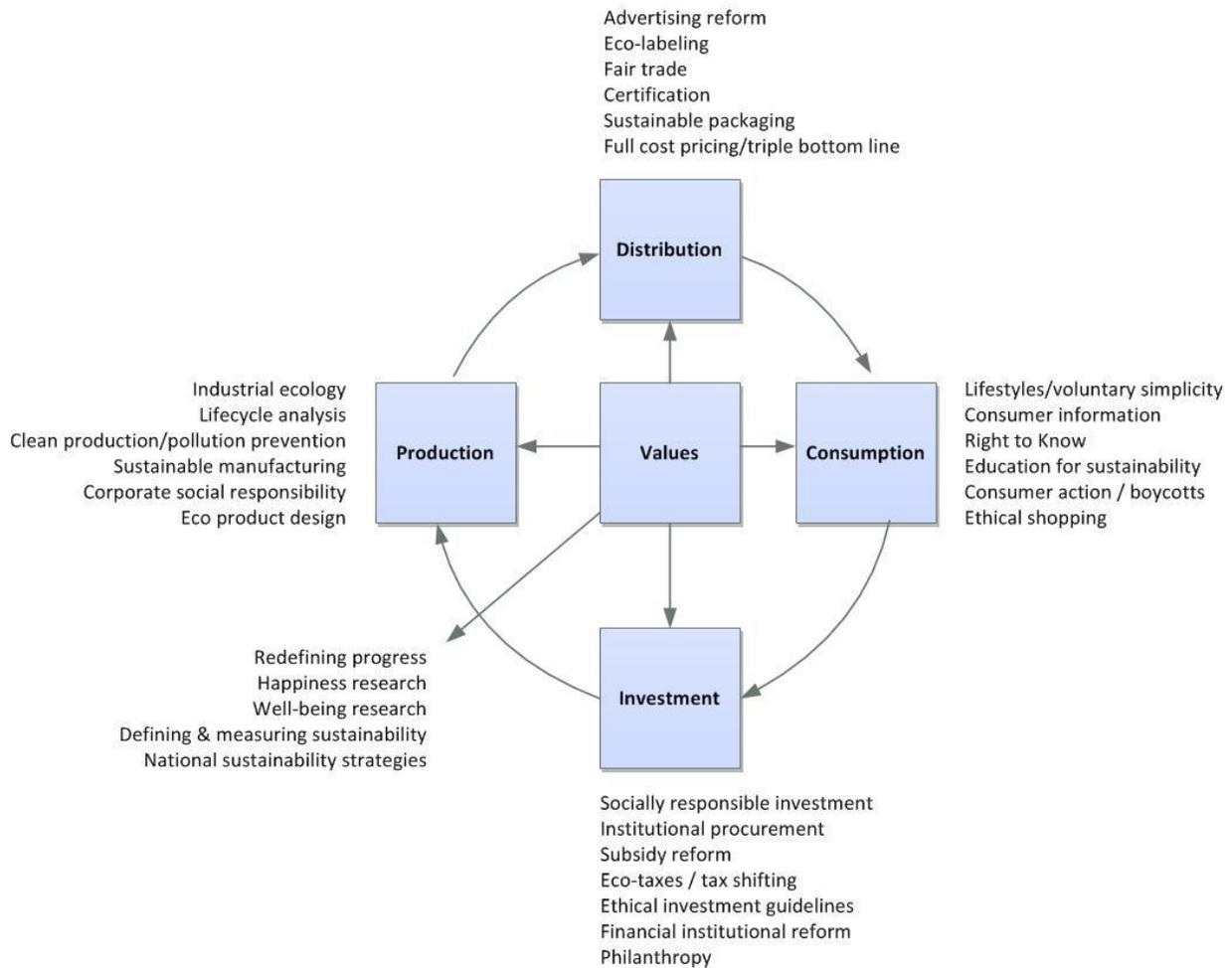


Many practices can be located according to the particular part of the cycle they aim to change (Figures 10-11). This might be on the production side, targeting for example inadequate health and safety standards in food production or abuse of human rights or ecosystems associated with extraction of raw materials used in production. Many Fair Trade initiatives target different players along the supply chain back to the original workers and producers to ensure they are not exploited or exploiting others. Other practices may target the distribution stage of a product, for example reforming advertising (e.g., portrayal of women; marketing to children) or improving packaging methods.

If we have a good idea of the particular part of the production/consumption cycle different practices are targeting for intervention, we can cluster those practices for each stage in the cycle. We can use this approach for a particular product or for the overall sector.

Some practices may target a specific consumption-based pattern, such as the 1986 “Don’t Mess With Texas” public education campaign against littering²⁶ or the the international boycott of Nestles organized in the mid-1970s by INFACT in response to the marketing of infant formula to poor African women.²⁷

Figure 11 - Practices and intervention points



These are just two initiatives out of thousands of others worldwide. However, initiatives can be grouped according to the type of practice or change strategy they represent (e.g., public education campaign; consumer boycott; ethical shopping; voluntary simplicity).

Groups promoting voluntary simplicity values have not only engaged in “simplicity circles”²⁸ to discuss and encourage each other, but have evolved a common culture around these ideas, identifying this not as an initiative or practice but as a social movement.²⁹ Practices focused on promoting sustainable lifestyles may represent a wide-spread movement to change not just a particular consumer behavior but to transform the mainstream culture itself.

Changing course

While the various practices and communities of practice share in common the concept of *sustainable development*, of meeting the needs of the present without compromising the ability of future generations to meet their own needs, they may each interpret it somewhat differently, sometimes with quite polarized opinions. The concept is often criticized as meaning all things to all people. Because of its vagueness and ambiguity it is labeled a “contested

concept,” claimed by many movements and actors, each interpreting the key terms differently.³⁰ However, if we are going to change course we need to have an understanding of what we mean when we say we want production and consumption to be “sustainable.”

Each community of practice faces the obligation of defining what it means by “sustainable” and how this translates into practice and concrete outcomes. Each community of practice needs to define, by and for its members, its domain or conceptual frame.

A common starting point for this definitional/framing process is the idea of taking responsibility for the impact of our choices and actions on others, including those in the future. We are asked to adopt a moral imperative which clashes with the rampant individualism of modern consumer culture. The imperative of sustainability and intergenerational equity demands a major change in values and norms affecting personal and household consumption habits as well as institutional production processes and products.

This imperative calls for a shift towards “new concepts of wealth and prosperity which allow higher standards of living through changed lifestyles and are less dependent on the Earth’s finite resources and more in harmony with the Earth’s carrying capacity.”³¹

This shift in values affects all stages of the production/consumption cycle and in turn is a major driver shaping the strategies, initiatives and practices aimed at changing each of those realms: investment decisions, production and products, distribution and consumption, as well as the waste, emissions and pollution generated from these activities. It is at this location, where values are formed and then influence choices, decisions and action, where each new cycle of production and consumption formally begins.

Values-oriented practices

Those practices and communities of practice challenging or rather appealing to the underlying values motivating action may take shape in a wide variety of locations and forms – in business, spirituality, the arts, education, recreation, politics, community-planning, and culture in general. Prominent examples include efforts to redefine economic progress (e.g., Redefining Progress; New Economics Foundation; International Society for Ecological Economics; Sustainable Prosperity), challenging the growth and mass consumer model of business, focusing away from values of acquisitiveness, competitive individualism and materialist-based status to those of simplicity, community, health and quality of life. Examples include faith-based initiatives emphasising the move away from materialism to more spiritual and social priorities; research and education on happiness and well-being; efforts to define and measure sustainability, applied in sustainability assessments, national accounting, indicators, and sustainable development goals. The emphasis on values can be seen in new approaches to community and urban planning as well as national sustainability strategies and plans.

Figure 13 - Values shaping decision-making

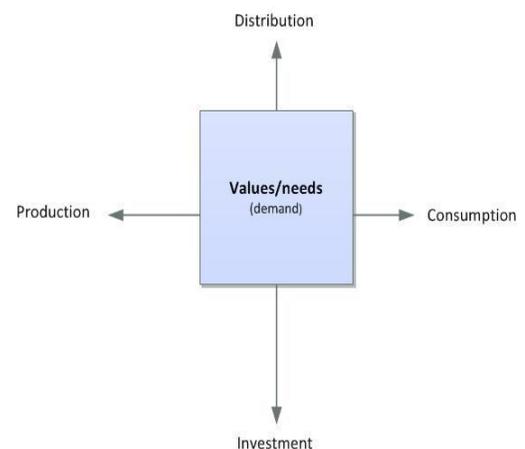
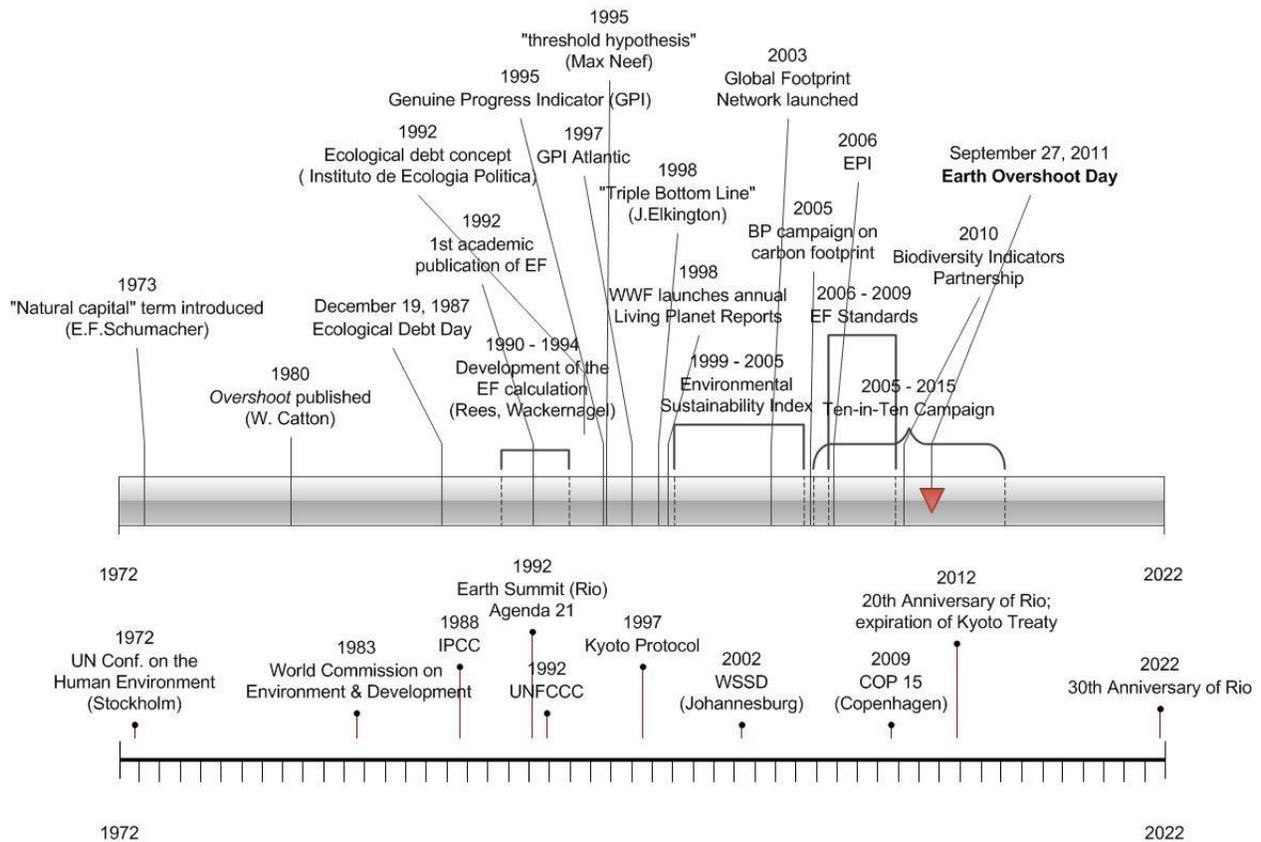


Figure 12 - Development of sustainability metrics



It is helpful to map the history of a particular values-oriented practice, i.e., the development of sustainability indicators (Figure 12). Placing this history in conjunction with the UN sustainable development policy discourse, we see a complex set of overlapping dialogues, research and analysis to find meaningful measures of progress towards sustainability. Clearly the practice of sustainability metrics has had and continues to wield a strong influence on the policy negotiations and broader discourse.

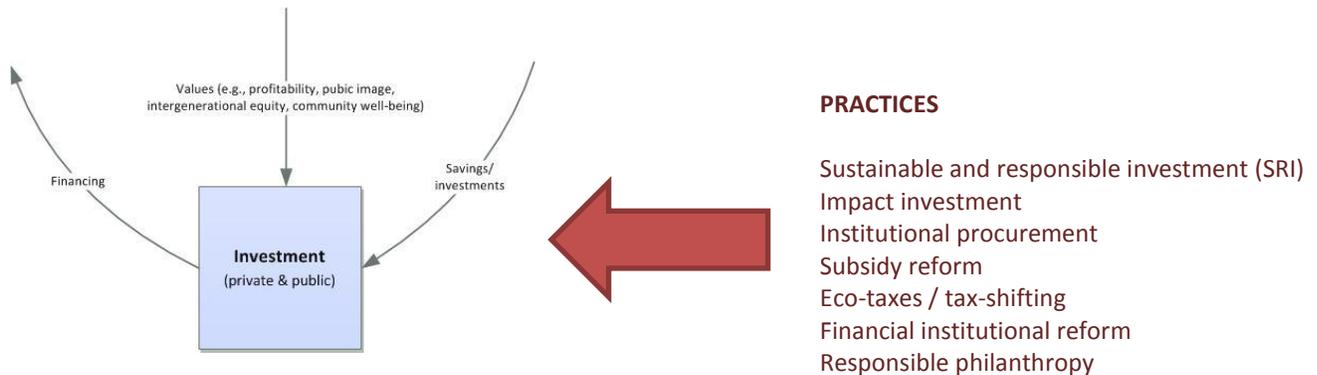
The work on sustainability metrics and values has evolved over the years along with the communities of those engaged in this practice. The Global Footprint Network, launched in 2003, is a good example of a specific global community of practice that emerged through the further development, application and promotion of the ecological footprint measure and concept. The network now includes over 90 organizations across six continents.

Investment-oriented practices

For many years and reasons the role of investment has been left out of discussions about sustainable production/consumption. Yet it is those actors who have access and control over resources, from subsistence farmers to investment bankers, who ultimately decide what products or services will be produced, not the “demands” or needs of consumers. A number of groups and networks who understood this developed a range of strategies and practices intervening at this early and critical stage of the cycle, targeting the processes and priorities of investors (individual, private, government, institutional) who decide on what resources

(financial, labor, natural capital) will be drawn upon to produce a particular product or service, as well as whose needs or demands will be addressed. For private and most institutional investment, it is often not consumer demand, social need or public benefit which determines the launch or cancellation of a product line but profitability and estimation of risk. For the one billion potential consumers who happen to be stricken with poverty, their demands have minimal influence.

Figure 14 - Investment-oriented interventions

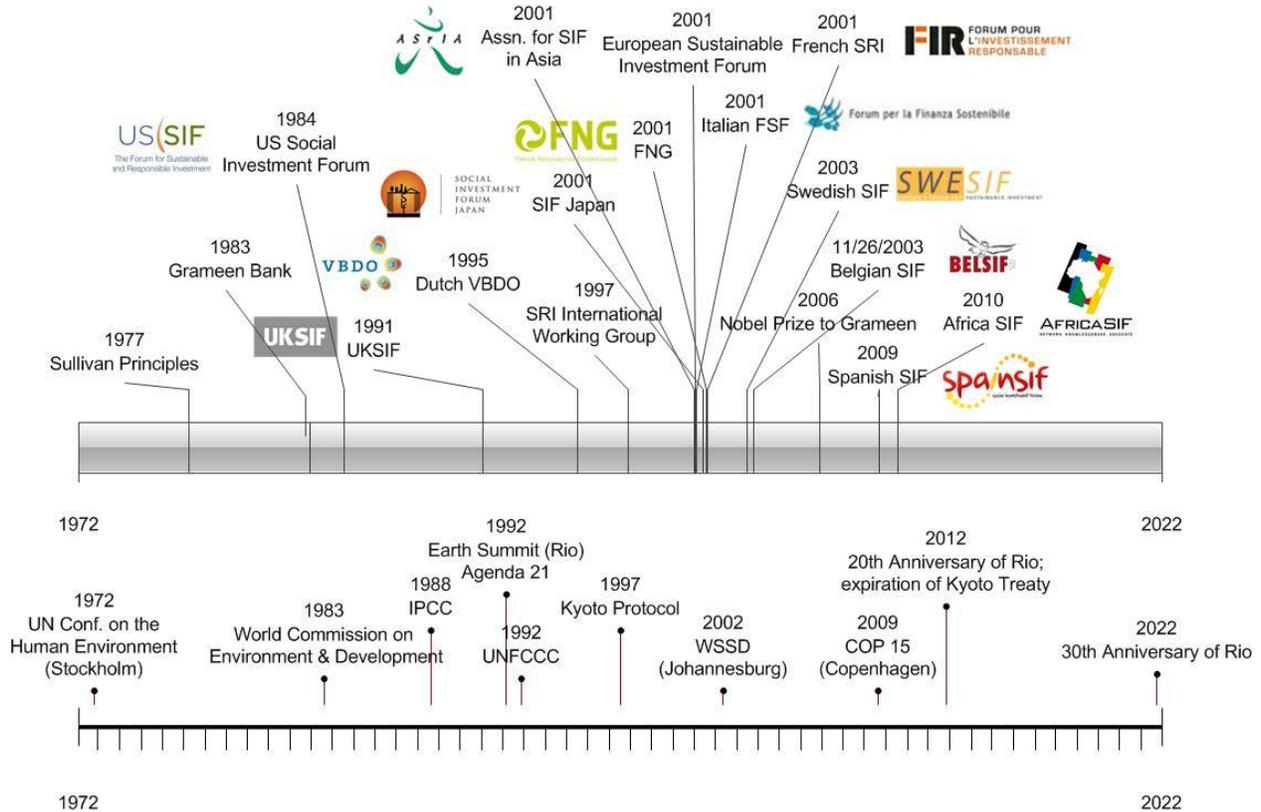


Some of the practices and communities of practice targeting this stage of the cycle for strategic intervention (Figure 14) include: sustainable and socially responsible investment (SRI), subsidy reform (e.g., EarthTrack; Friend’s of the Earth’s Green Scissors; Oil Change International; Subsidy Shift), green institutional procurement (e.g., Responsible Purchasing Network; International Green Purchasing Network), and responsible philanthropy (e.g., Funders Working Group on Sustainable Production and Consumption).

The practice of *sustainable and socially responsible investment* (SRI) offers a good example of the international spread of a community of practice sharing learning at the national, regional and global level.

The practice of targeting investment with regard to its social impacts goes back to the 18th century, in particular through religious prohibitions against supporting the slave trade. More recently the modern practice of socially responsible investment (SRI) evolved in conjunction with economic boycott campaigns used by the civil rights, anti-war and other social movements, including international campaigns targeting companies investing in South Africa under apartheid, drawing especially upon the Sullivan Principles.³² In 1984 the Social Investment Forum (now US Forum for Sustainable and Responsible Investment) was created as the first such organization to serve social investors. This network remains a vibrant community of practice, with regular retreats (“SRI in the Rockies”) and gatherings to share stories and interests and develop collaborative projects.

Figure 15 – Sustainable and socially responsible investment initiatives

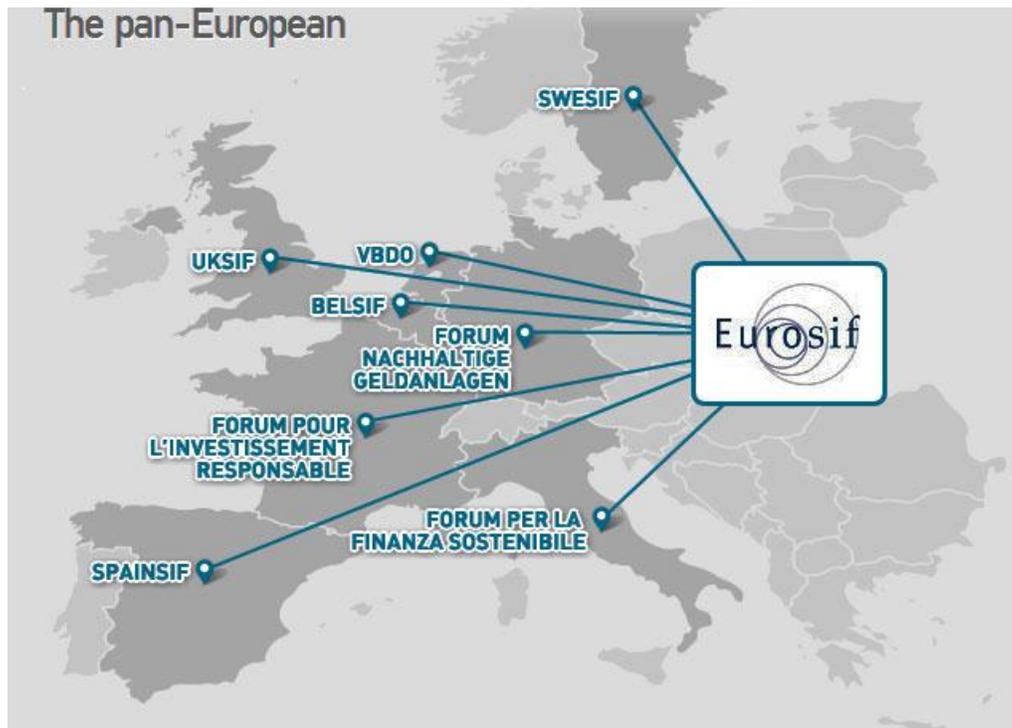


The European Sustainable Investment Forum (EUROSIF) defines “SRI” as “sustainable and responsible investment,” that is

investing that is mindful of the impact those investments have on society. SRI traditionally combines investors' financial objectives with their concerns about environmental, social and governance (ESG) issues. SRI is an evolving movement, whose most recent development is based on a growing awareness by the population, investors, companies and governments of the impact of ESG risks on long-term issues ranging from sustainable development to long-term corporate performance.

These organizations and networks have gradually emerged over the years in various countries along with the growth of regional networks (EUROSIF, ARSIA, Africa SIF) serving the national associations. EUROSIF provides a good example of SRI as a movement linking several communities of practice regionally (Figure 16), sharing experience, research, data and other knowledge, addressing a range of social issues and impacts from companies and financial institutions.

Figure 16 - Pan-European community of SRI initiatives

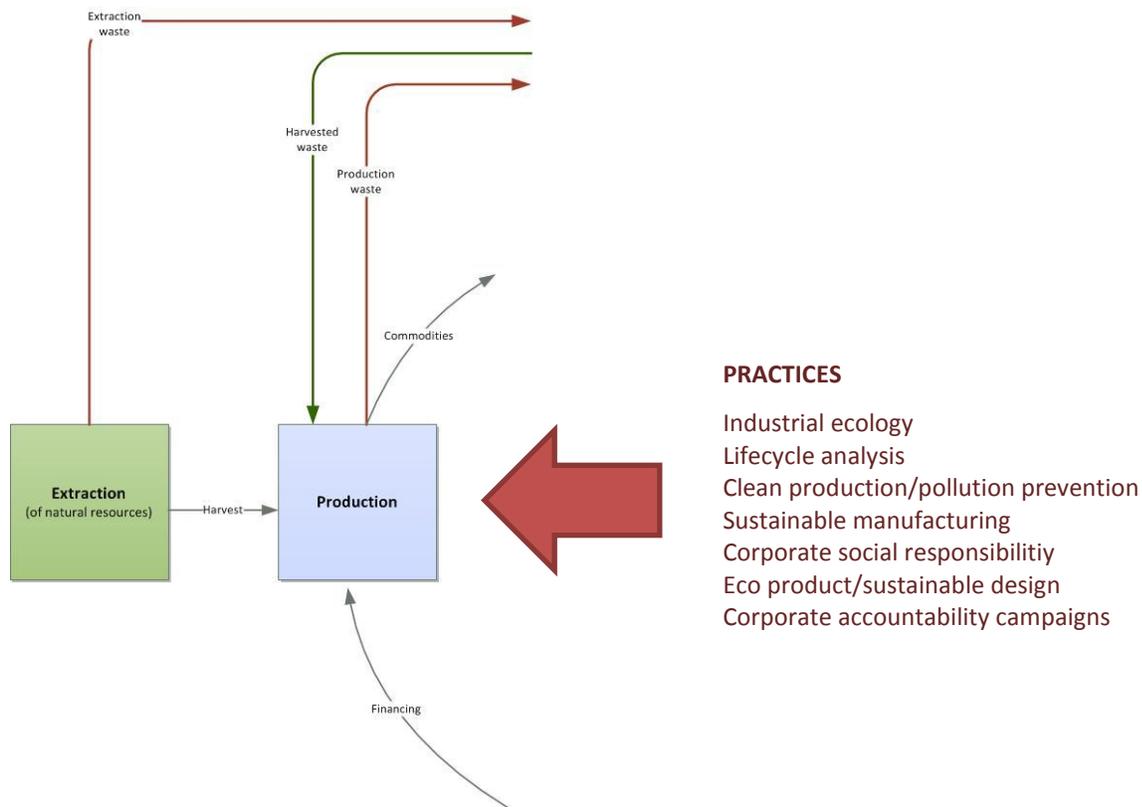


Other investment-oriented practices, such as green or sustainable institutional purchasing programs, campaigns to reform, shift or end unsustainable subsidies, tax reform, financial accountability campaigns, responsible philanthropy and other such actions intervening in the investment stage have also generated local, national, regional and international networks and communities of practice – which we unfortunately cannot all cover in this paper.

Production-oriented practices

Perhaps a good starting point for exploring practices aimed at the production stage is with the concept and practice of *life cycle analysis* (LCA) and *industrial ecology*, as these deal more generally across all industries and product types, bringing a sensitivity to sustainability values and principles to the overall process of producing material things for sale and consumption. One of the objectives of LCA is to identify and find alternatives to the potential emissions, toxic pollution, and other negative impacts of a production process at different stages of its lifecycle. ISO standards required the LCA to clearly define each assessment's goal, scope and intended application. This has been an immensely important tool and advance in developing sustainable production methods and practices.

Figure 17 - Production-oriented practices



The practice of LCA draws together hundreds of people and organizations through networks such as the American Center for Lifecycle Assessment formed in 2001 to “build capacity and knowledge of LCA,” including promotion of LCA among industry, government and NGOs, supporting education and outreach, supporting the presence of underrepresented groups in national and international conferences, and promoting networking among LCA practitioners and researchers.

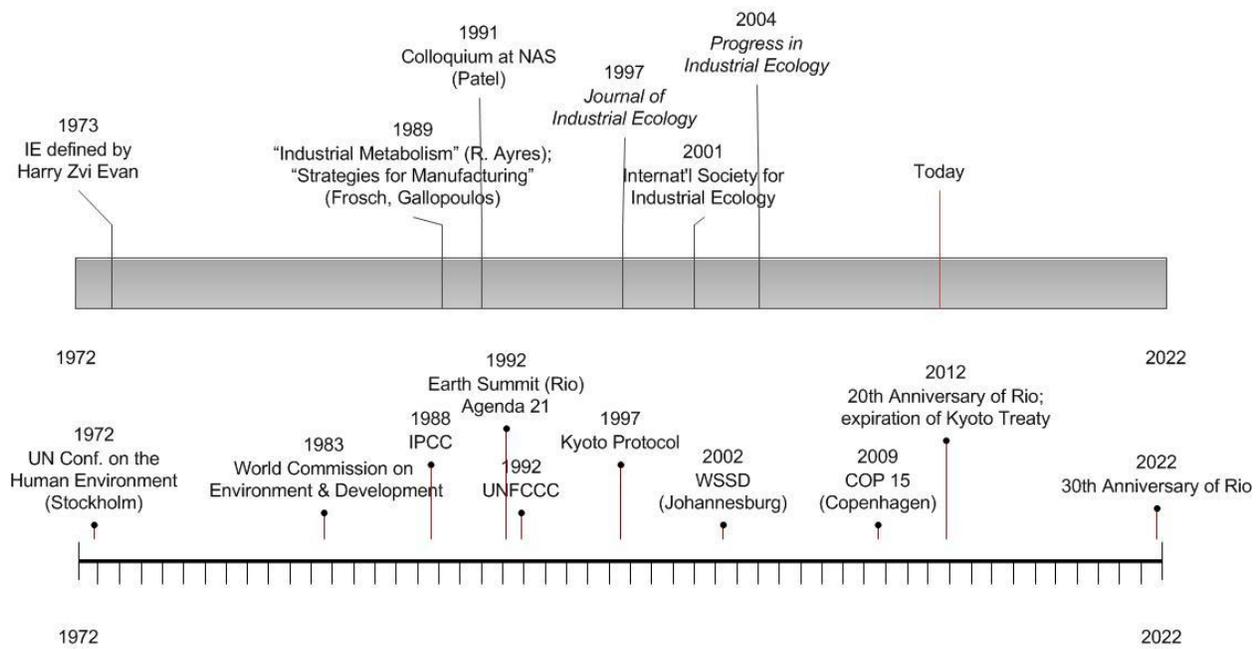
The European Platform of Life Cycle Assessment was created in 2005 by the European Commission to facilitate communication and exchanges on life-cycle data, with ongoing debate about good practice in LCA use and interpretation. However this is not so much a community of practice, but rather a joint project between the EC environment ministry and the Commission’s Directorate-General Joint Research Centre (JRC-IES),³³ which in turn feeds into the EU Sustainable Consumption and Production Action Plan. The JRC-IES website does point out that “our common goal” is “sustainable consumption and production.”

The SETAC LCA Advisory Group in Europe might also be considered a community of practice promoting greater awareness and application of LCA in policy and production. It is linked also with UNEP through The Life Cycle Initiative. UNEP emphasizes that the initiative “responds to the call by Governments around the world for a Life Cycle economy in the Malmo Declaration (2000),” and “contributes to the 10-Year Framework of Programmes to promote sustainable consumption and production patterns, as requested at the World Summit on Sustainable Development in Johannesburg (2002).” Clearly these initiatives and networks are stongly

oriented towards governments and large corporations, and expect familiarity with UN and EU policy and terminology as well as those of LCA.

LCA is also part of the overall toolkit of *industrial ecology*, which has inspired its own set of networks and communities of practice (Figure 18). Attracting popular attention in 1989 in a *Scientific American* article by Robert Frosch and Nicholas Gallopoulos, followers of this approach work to transform modern industrial systems so they behave more like natural ecosystems, where the wastes of one species represents a value resource to another (such as the production by green plants of the waste product oxygen used by most of life on earth, receiving in turn the valued waste of other creatures as fertilizer).

Figure 18 - Industrial ecology - LCA actions



One prominent example of a network and community of practice emerging around this re-thinking and redesigning of the production process is the International Society for Industrial Ecology, founded in 2000 as “a group of leaders from diverse fields who share an interest in promoting industrial ecology.”³⁴ Ehrenfeld notes that “in the 10 years since industrial ecology first became a topic of academic interest, it has grown as a field of inquiry and has produced a community of practice in several sectors including academia, business, and government.”³⁵

Strategic intervention in the production stage can take place in many places: the design phase as well as the actual construction/assembly process, the decision on materials and their impacts, as well as all along the supply chain to raw material extraction involving different industries as well as companies. Some initiatives focus on specific products involving a range of companies; others may focus on a specific company involving a range of products.

Some initiatives focus more on specific environmental or social impacts, such as soil erosion, displaced communities, water and land pollution, biodiversity loss, turning their attention to what companies and industries are contributing to these problems. Some initiatives focus on changing particular production processes, such as pushing for improvements in energy efficiency or materials substitution in order to reduce or eliminate carbon emissions or the overall replacement of fossil fuels as energy source.

Some initiatives target management policies and practices, such as those encouraging companies to adopt corporate social responsibility (CSR) principles and codes. The popularity and pervasiveness of CSR throughout the business world could be described as a movement in itself, although some might instead view much of these efforts as more of a counter-movement to promote voluntary initiatives over government regulatory approaches.

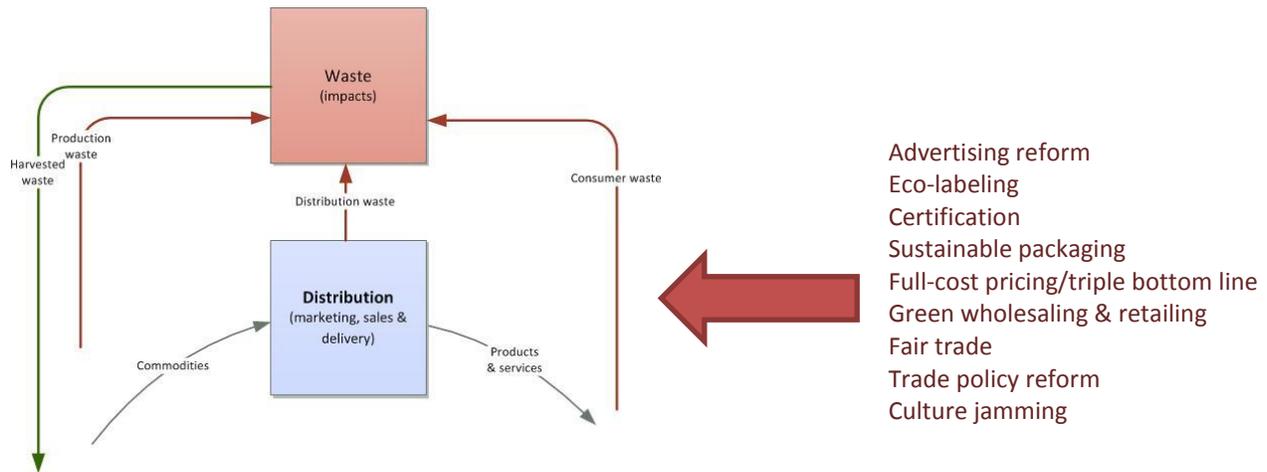
Another set of initiatives, practices and communities of practice are located at another side of the political playing field, taking a very different approach and tone, focusing on the concept of *corporate accountability*. These groups act as watchdog organizations, highlighting corporate abuses and mobilize public response. Examples are Corporate Accountability International (“waging and winning campaigns to challenge corporate abuse for more than 30 years”),³⁶ CorpWatch (“non-profit investigative research and journalism to expose corporate malfeasance and to advocate for multinational corporate accountability and transparency”),³⁷ the International Corporate Accountability Roundtable (which “harnesses the power of the human rights community to identify and promote robust frameworks for corporate accountability, strengthen current measures and defend existing laws, policies and legal precedents”),³⁸ and Public Citizen (which “advocates for a healthier and more equitable world by making government work for the people and by defending democracy from corporate greed”).³⁹

Again, we can only skim the surface of the many different practices and communities of practice engaged in changing current production processes and systems.

Distribution-oriented practices

The next category of practices and communities of practice focuses on those post-production domains designed to shape and determine consumption decisions and behavior. This is the *distribution* or marketing phase of the cycle, the pricing, packaging, labeling, transport and advertising of products and services in their journey between producer to wholesaler and retailer to customer (Figure 19).

Figure 19 - Distribution-oriented practices



In contrast to practices aiming at influencing investment decisions or aspects of production, this group of practices and practice communities address what happens with and around a product or service after it is produced and on its way to potential consumers. In general, this phase involves the systems of selling.

Despite claims to the contrary, the \$450 billion spent each year flooding the media channels with carefully crafted messages has a range of impacts which go far beyond simply influencing purchase decisions. Overall, modern advertising represents a powerful force shaping culture, acting as a counter-force to messages about the earth's limits and the need to change lifestyles. In response, a number of campaigns and initiatives (e.g., Campaign for a Commercial-Free Childhood; Campaign for a Commercial-Free Education; Commercial Alert; Action Coalition for Media Education) have been working to counter these impacts through education, critical media literacy skills training, and culture jamming, as well as legislative campaigns to regulate this non-stop sensory flood.

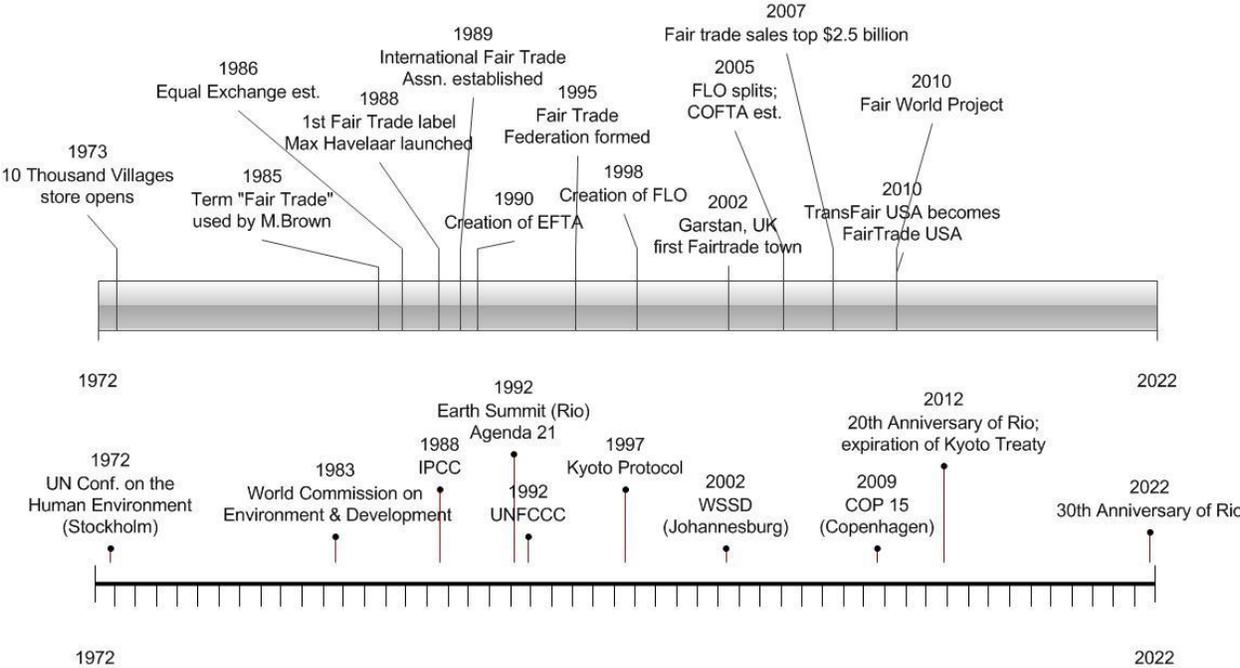
One network actively confronting consumer culture is the Canadian organization Adbusters. Launched in 1989 by Kalle Lasn and Bill Schmalz, Adbusters describes itself as "a global network of culture jammers and creatives working to change the way information flows, the way corporations wield power, and the way meaning is produced in our society," its membership "97,950 strong" as of 2012.⁴⁰ The aim, Lasn explained, is "to topple existing power structures and forge major adjustments to the way we will live in the twenty-first century." This aim of course requires building a very large community. "Maybe," he imagines, "if we banged together the heads of all these activists and reconfigured the fragmented forces of identity politics into a new, empowered movement, we could start winning again." They named their practice *culture jamming*: "We organize swap meets, rearrange items on supermarket shelves, make our software available free on the Net, and generally apply ourselves to the daily business of getting consumer culture to bite its own tail."⁴¹

Another important strategy addressing the post-production phase of the cycle is the practice of developing, implenting and promoting awareness of *eco-labels*, aiming to ensure consumers have adequate information about the environmental, health or other impacts of products. These may take the form of consumer education campaigns, consumer information, eco-labeling and certification (e.g., Green Seal, Nordic Swan, EU Ecolabel) and others as identified in Consumer Union’s Guide to Eco-labels database.⁴² Eco-labeling initiatives appear all over the world, sometimes creating confusion and controversy as to the degree to which they are actually informing, misleading (“greenwash”) or simply confusing consumers. Closely related to eco-labeling are various certification programs, such as the Marine Stewardship Council, the Forest Stewardship Council (an alternative to the Programme for the Endorsement of Forest Certification), among others. These initiatives are often associated with various configurations of “stakeholders,” which may or may not be considered communities of practice.

The Global Eco-labeling Network (GEN) represents a broad effort to build a community of practice among eco-labeling practitioners. Launched in 1994, GEN describes itself as “a non-profit association of third-party, environmental performance recognition, certification and labelling organizations to improve, promote, and develop the ecolabelling of products and services.”⁴³ Made up of 27 member organizations around the world, the network functions to help new programs start more quickly, facilitate certification of products and make international certification more cost-effective, facilitate exports of environmentally certified products as well as address and allay concerns about trade barriers.

Another example of distribution-oriented practice and communities of practice is that of *fair trade* (Figure 20).

Figure 20 - Fair trade initiatives



Beginning in the 1940s and now incorporating eco-labeling, certification and other practices, the practice of fair trade cuts across economic sectors, countries and governments, moving from global trade policy negotiations to negotiations between employers and workers. Ranging across a variety of products and services, fair trade organizations and networks can be found at the local level, such as Fair Trade Vancouver,⁴⁴ which is associated with the national certifying body, Fairtrade Canada,⁴⁵ which in turn is among the 25 national network members of Fairtrade International.⁴⁶ In addition to these national fairtrade networks, Fairtrade International also cites a number of other partner organizations (e.g., funders, trade unions, local capacity builders) as well as advocacy organizations as part of this global community of practice.

The growth of “green” and “socially conscious” consumers has in turn inspired the rise of eco-friendly entrepreneurs and qualitative changes in distribution – in marketing and advertising, pricing, packaging, transportation as well as sales and trade. In marketing, for example, we see increased attention to Lifestyles of Health and Sustainability (LOHAS), representing an estimated \$US 290 billion market segment focused on health and fitness, the environment, personal development, sustainable living, and social justice. In the United States, this accounts for 13-19 percent of the adult population, nearly 41 million people. The main LOHAS market sectors are in personal health, green buildings, eco tourism, natural lifestyles, alternative transportation and alternative energy. Each year the LOHAS community of marketers, wholesalers, retailers and market researchers gather to exchange knowledge and insights as well as business cards.

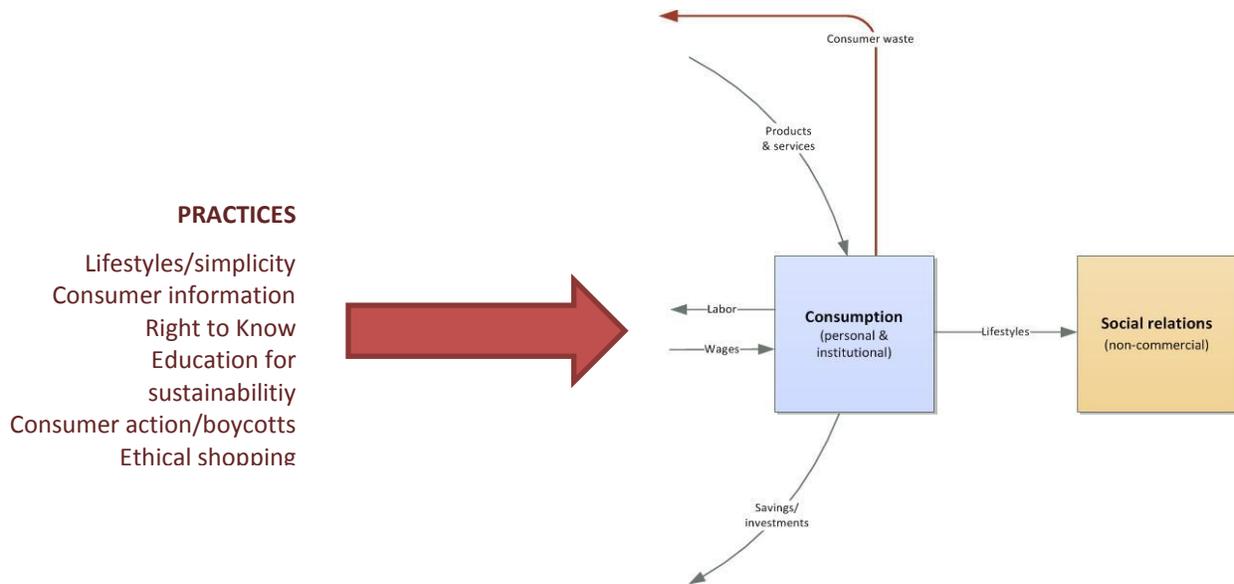
Consumption-oriented practices

The most prominent behavior and target for change, especially in modern day consumer societies, is personal and household consumption: food, clothing, housing, cars, gas, appliances, electricity, toys, entertainment, health care, trash services, police and fire, education, news, cosmetics, cleaning chemicals and more. Institutional consumption is another category and target.

A wide range of initiatives, policies and strategies fielded by organizations, networks and communities of practice can be identified in this realm (Figure 21), these ranging from a focus on influencing purchase and use of specific brands, products or product types to entire transformation of personal lifestyles and household management.

One major practice which has resulted in numerous communities of practice is that focusing on *lifestyles and simplicity*. In 1992, as the UN in Rio negotiated the Agenda 21 chapter on “Changing consumption patterns,” while developers in Bloomington, Minnesota were busy building the world’s largest shopping mall, Worldwatch author Alan Durning published *How Much is Enough?* articulating one of the key questions in this emerging movement.⁴⁷ There he called on the richest one fifth of the globe “to question their own lifestyles, to challenge the all-pervasive notion that more is better.” Years earlier Carlo Petrini challenged the opening of a McDonald’s fast food restaurant in Rome, launching what is now known as the Slow Food Movement.⁴⁸ By 2008 this movement established a slow food manifesto promoted by 85,000 members in over 100 countries,⁴⁹ with spin off movements for Slow Design, Slow Art, Slow Education and Slow Living.⁵⁰

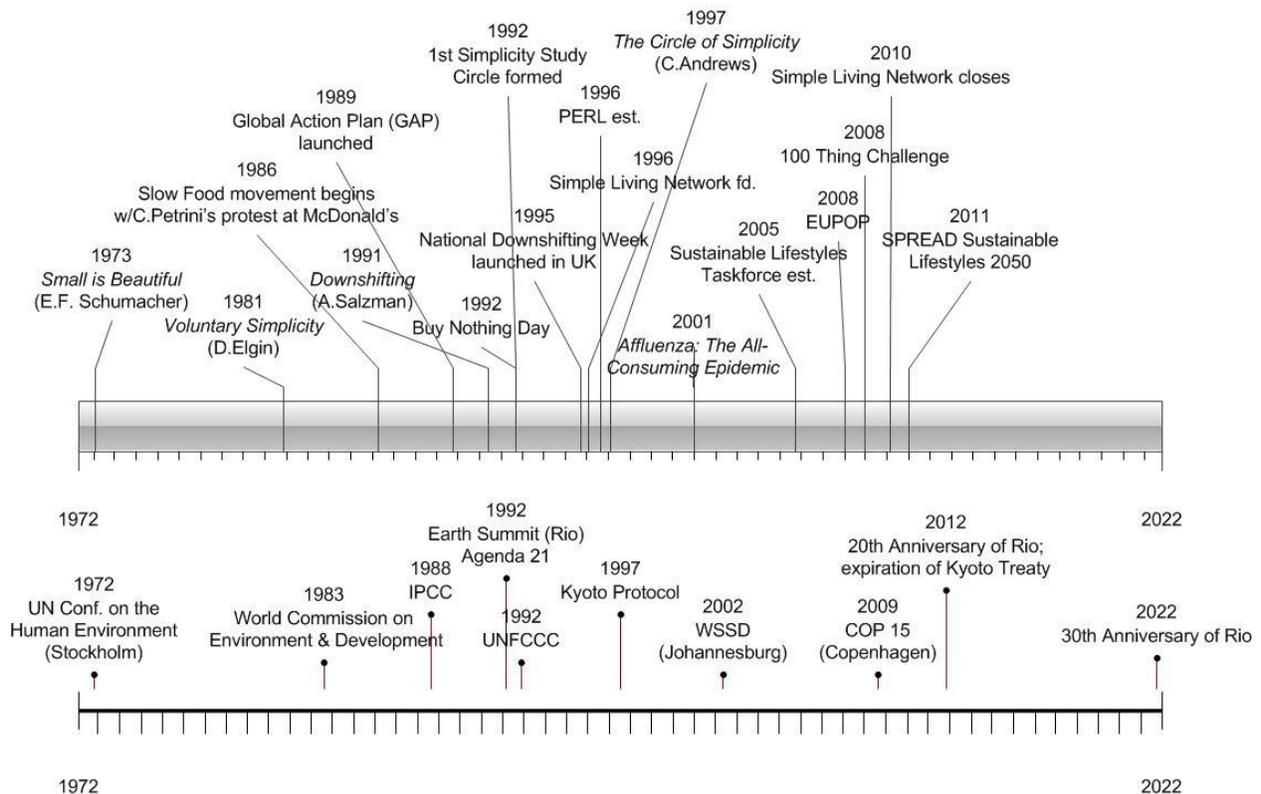
Figure 21 - Consumption-based interventions



Although Richard Gregg⁵¹ coined the term a half century earlier, many began describing a new movement citing Duane Elgin’s 1981 book *Voluntary Simplicity: Toward a Way of Life That is Outwardly Simple, Inwardly Rich*.⁵² Rooted in a rich cultural and philosophical tradition drawing on different religions and luminaries such as Thoreau, Gandhi and Thorstein Veblen, these new expressions of public action and personal commitment have emerged under the banner of the “voluntary simplicity movement.” Developing and promoting the practice of “downshifting,”⁵³ embracing values and practice of “sufficiency”⁵⁴ and “simple living,”⁵⁵ the movement encouraged a range of communities of practice, such as the “simplicity circles”⁵⁶ and EcoTeams.

Global Action Plan International, whose founders describe their program as “an international community of practice,”⁵⁷ launched the Eco Team Program in the Netherlands in 1990. Established by a group of environmental and behavioral scientists, the Eco Team Program took a somewhat more structured approach to “improve ecologically relevant behavior within households.”⁵⁸ Specific measurable objectives were set for each household, for example reducing waste disposal by 65%, electricity use by 30%, and consumption of fuel for transport by 40%. The Teams are composed of 6 to 10 neighbors, friends and church members who act as a mutual support network, following a workbook to change their personal consumption habits. By 1994 the program spread to 14 countries, expanding to 20 countries to date.

Figure 22 - Voluntary simplicity initiatives



In the United States, Vicki Robin of the New Roadmap Foundation initiated a meeting in 1991 entitled “The Power of Simplicity: An Invitational Dialogue among Leaders in the Field,” which led to formation of The Simplicity Forum, an “alliance of simplicity leaders.”⁵⁹ Some of these leaders and others went on in 1997 to establish the Center for a New American Dream (CNAD), specifically dedicated to “help Americans to reduce and shift their consumption to improve quality of life, protect the environment, and promote social justice.”⁶⁰ CNAD’s Beyond Consumerism program, for example, promotes “consuming consciously,” reclaiming time and protecting children commercial marketing, and providing tools and support to local community initiatives to “foster greater livability and vitality.”

Are we there yet?

In this paper we briefly scanned the landscape of practices to change the world’s production and consumption patterns, noting the diversity in communities of practice that have formed over the years sharing experience, knowledge, and resources. Their efforts are critical to our future as they address the roots of the world’s major threats (Figure 23). One of the objectives of this paper is to consider ways to help support this work , to help generate greater visibility and appreciation for these efforts, and to encourage and promote the kind of information sharing, reflection and cooperation in which these communities of practice are engaged.

Figure 23 - Communities of practice, sectors, and global issues

	Sectors / systems			
	Food	Transport	Buildings	Energy
Consumption				
Lifestyles/simplicity				
Consumer information				
Right to Know				
Education for sustainability				
Consumer action/boycotts				
Ethical shopping				
Distribution				
Advertising reform				
Eco-labeling				
Fair trade certification				
Sustainable packaging				
Full cost pricing/TBL				
Production				
Industrial ecology				
Lifecycle analysis				
Clean production/P2				
Sustainable manufacturing				
Corporate social responsibility				
Eco product design				
Investment				
Socially responsible investment				
Institutional procurement				
Subsidy reform				
Eco-taxes/tax shifting				
Ethical investment guidelines				
Financial institutional reform				
Philanthropy				
Values				
Redefining progress				
Happiness research				
Well-being research				
Sustainability measures				
National strategies/planning				
Local strategies/planning				

Practices / policies	Climate change			
			Biodiversity loss	
		Unemployment/poverty		
				Financial crisis

In 1992 the *World Scientists' Warning to Humanity* called for a "new ethic" involving "a new attitude towards discharging our responsibility for caring for ourselves and for the earth." They said we need to recognize the earth's limits and fragility, to "no longer allow it to be ravaged" and that this ethic "must motivate a great movement, convincing reluctant leaders and reluctant governments and reluctant peoples themselves to effect the needed changes."

Since then governments have met, discussed and negotiated policies on these needed changes. Corporations have adopted codes of social responsibility, greening their procurement policies and adopting new sustainability reporting requirements. People and organizations continue to

launch initiatives promoting this new ethic and behavior, applying a range of strategies and campaigns aimed at understanding and overcoming this reluctance to change. Some of the strongest resistance is political, the backlash of entrenched special interests that do not want to give up power and privilege for the sake of the planet and its many living communities.

Unfortunately on this 20th anniversary of the Earth Summit the sad fact is that after decades of negotiations as well as action, we have still not significantly “changed course.” It was not the objective of this paper to assess the effectiveness of the different practices and movements to change the system. This work is also needed, to learn from our history and the experience of others. In many ways we need to encourage ever-wider communities of practice, to improve our methods of sharing knowledge and supporting each others efforts.

The task to “motivate a great movement, convincing reluctant leaders and reluctant governments and reluctant peoples themselves to effect the needed changes” is today an even more urgent priority. Although the communities of practice we have been examining are all engaged in this effort to change our civilization’s course, their efforts are not yet recognized overall as a “great movement,” in contrast to the campaigns and counter-movements asserting climate change is a hoax or that the ingenuity of scientists and business entrepreneurs will solve the problems, or that the market should be left alone to deal with it.

The challenge of mapping the practices addressing production and consumption is nothing compared with the challenge of changing those systems and motivating others to engage in these efforts. The challenge is to build this movement to transform the economy and society. In this next decade we will have new tools for gathering and sharing information and communicating with each other across the planet. Hopefully by 2022 we will have a much clearer and more optimistic picture of this movement and its success in finding a better path through this troubled and precious terrain.

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