Your Next Homework Assignment

Three Production Growth Drivers result in three "Traps" created by the structure of the Commodity System. Whether these Traps are unintended consequences, inevitable costs, or necessary evils of the system depends on your perspective. Nevertheless, if a system is to be sustainable…. these traps must be included in the analysis. We must ask…. is the Commodity System…

1. Economically sustainable?
2. Social sustainable?
3. Environmentally sustainable?

The authors of this paper argue that it is not! So what do we do about it? The systems response would be to:

- make the invisible feedback loops visible
- measure success from multiple perspectives (not just short-term economics)
- include all of the stakeholders in the system in a re-visioning process
- look for leverage points for change

This paper presents three areas to look for leverage. They are:

1. Collective agreements
2. Certification
3. Government taxes and payments

In preparation for the next investigation into the Commodity System, please read this section of the paper and be prepared to share your ideas, questions and creativity with the class!

Strategic Thinking About the Redesign of Commodity Systems

Stakeholders in commodity systems have a range of tools available to them for balancing the productive capacity of the system with the limits of the natural and social systems supporting that productivity. What, of all the options available, will be the most effective tools to bring balance to a particular commodity system? The answer, of course, depends on the details of that system. Does it produce a crop that could be marketed directly, like vegetables or meat or cheese? Does it produce a very undifferentiated raw material, like soybeans or pine boards? Can the commodity be produced anywhere in the world or only in particular locations? How well organized are the producers of the commodity? Do they have a mechanism for making and enforcing agreements or would that organization need to be created? The answers to such questions will point to the most sensible options for "redesign" of each commodity system in question.

In our models and in the examples we have considered in this chapter, the interventions that put limits on how far commodity producing capacity can grow are the interventions that are most likely to bring long term stability to natural resource economies. In general, these interventions are policies that allow producers to agree on how much to harvest, what level of technology to use, or how much commodity to market.

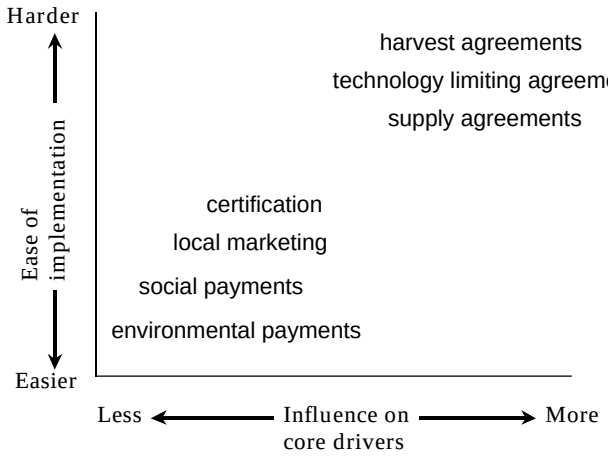
While collective agreements are the most effective interventions, they are the most difficult to implement. They require producers to move from competition to cooperation and often push

against the short-term interests of buyers further along the commodity chain. These buyers feel pressured more by the need for cheap, plentiful raw materials than by the need for a sustainable and equitable system for producing those materials.

Other tools, like certification programs or government payments for social and ecological best practices, can certainly help commodity systems, even if they do not intervene in the core dynamics. They help because they draw better boundaries around social and environmental resources, limiting the inadvertent damage that the core drivers can do to communities and ecosystems. Because such schemes are often voluntary, and because they don't interfere with the politically difficult issues associated with changes in the Production Growth Drivers, they may be easier to begin.

Figure 3-19 provides one way to think about these different interventions. The solutions with more influence on the Production Growth Drivers tend to be also be the more difficult to implement. They require more actors. And sometimes they are more threatening to established interests in the system. These more difficult — but more transformative — solutions cluster in the upper right hand corner of the figure. At the lower left are those interventions that work at the periphery of the Production Growth Drivers.

FIGURE 3-19 Intervention Strategies



It is not the case that interfering with the core dynamics is good, and more peripheral interventions are bad. Both are needed. The peripheral interventions, because they are easier to implement, can limit damage and build commitment to even more far-reaching change, buying all of us more time to build the knowledge and partnerships that will be need to institute changes closer to the core of commodity systems.

The challenge we face lies not in deciding which of these approaches is right and which is wrong. The challenge is implementing what can be accomplished now, with the resources and coalitions that already exist ***and*** beginning to build the level of understanding and cooperation that will be needed to intervene in the Production Growth Drivers of these systems.

4. Recreating Natural Resource Economies

At Sustainability Institute we are not only researchers. We also bring our simulation models and systems-thinking framework to groups trying to understand and shift the behavior of particular commodity economies. We work with state foresters, sustainable agriculture activists, policy institute analysts, government agency heads, senior managers at companies, and program directors of private foundations.

Although these leaders come from different worlds, they all tell versions of the same story. When local projects — even the most inspiring ones — are considered in the context of broader economic trends, these sustainable agriculture, forestry, and fishing initiatives feel inadequate to the challenges they face. The loss of productive farmland, the degradation of water and soil resources, the continual drop in numbers of farmers and fishermen, the decline of forests and fisheries — all these indicators make leaders in many systems wonder if they are doing too little too late.

In the race to save forests, ecosystems, waterways, and rural communities, many of us find ourselves working in emergency mode, pushing as energetically as we can in whatever direction we sense opportunity. With so much at stake, the sense of urgency is completely understandable. It is an urgency all of us who have written this paper share.

At the same time, our analysis of commodity systems has convinced us that even as we act out of urgency, we must also be deliberate in our response. At least some of our collective energy must be focused on the core systemic drivers that produce the alarming trends in the first place. We will not be successful if we spend all of our energy trying to repair the damage they do. We must also reshape commodity systems from their core. We must attend to the Production Growth Drivers.

All of our analysis tells us that this is completely possible. Intellectually, the problem is not that complex. There are tools — many of which have been described in this paper — that are right at hand. What we need — what we must create — is the kind of shared understanding that will allow new partnerships to take hold.

Commodity systems are not going to shift easily. We will need the concerted efforts of producers, governments, commodity buyers, and international organizations. We hope the ideas and framing presented here will contribute to the creation of some of these partnerships and inspire those who are ready to address the traps of commodity systems at their core.

Elements of a Solution

New System Structures for Responding to Social and Environmental Indicators

The art of keeping commodity production within the capacity of the resource to regenerate, within the capacity of the environment to assimilate wastes, and within the capacity of producing communities to sustain themselves simplifies to a single principle**.**

Feedback (information, incentives, regulations) about the state of resources, the surrounding environments, and producing communities MUST be strong enough to counterbalance the inherent pressure to increase efficiency, scale, and level of production.

Whatever the exact nature of the solution, it must adjust the growth of commodity-producing capacity in response to environmental or quality of life indicators in an accurate and timely fashion.

Designing Interventions

The kinds of interventions that can help bring balance to commodity systems — collective agreements, certification, and government-mediated taxes and payments — do so by connecting the decision to increase or decrease harvest capacity, harvest rate, and harvest practices with information about the state of social or environmental resources. Several rules of thumb are helpful when thinking about how each of these interventions modifies commodity systems.

FEEDBACK NEEDED FOR AVOIDING COMMODITY SYSTEM TRAPS

Trap # 1: Resource Depletion
To avoid the over-harvesting trap, the harvest rate must be held under the resource growth rate. This cannot be accomplished by relying on market signals of scarcity, such as a rising price. The market price for a raw material will signal scarcity only *after* the harvest is well above the production rate. By then, the health of the resource base may be severely damaged and producers or harvesters may be so far over-capacity that coming into balance is politically and economically very difficult.

Trap #2: Pollution
To avoid the waste accumulation trap, as the waste production rate approaches the waste removal rate there must be some mechanism to slow investments in new commodity producing capacity or to increase investments in practices that reduce waste.

Trap # 3: Community Decline
To avoid the trap of stressing producer communities, commodity systems must respond to declines in producer incomes, producer numbers, and the quality of life in producing communities with measures which counteract the trend toward ever-rising production and ever-falling prices.

First, the more effectively an intervention deals with the core growth drivers of a system, the more likely it is that the intervention will "spring" multiple traps. The interventions that put limits on the growth of commodity harvesting or producing capacity are the most likely to bring long-term stability to natural resource economies. In general these policies allow producers to agree on limits to how much to harvest, what level of technology to use, or how much commodity to market. Because these interventions tend to limit capacity growth in general, an intervention designed to protect a resource (say a harvest limit) might also protect producer incomes by slowing the push toward overproduction.

Second, it is VITAL that the boundaries of the solution match the boundaries within which the commodity is produced and sold. Harvest limits, technology limits, and supply control agreements only work if all of the producers selling into a given market are a part of the agreement. If fishermen along one section of coast agree to harvest limits, they can survive on

lower harvest rates because the price of fish will rise to reflect the lower supply. But, if fishermen just down the coast harvest the same species without limits and sell into the same market, the "sustainable" producers will not be able to compete. If U.S. corn growers set production limits but sell into the same market as Argentinean farmers who do not have production limits, the U.S. agreements will not be able to prevent overproduction and falling prices.

There are two ways to address this relationship of solution scale and market scale. The first is to narrow the market, to protect in some way a small group of producers from the rest of the commodity stream. The second approach is to scale the solution to the global market, making it as multi-national as the commodity market.

Local Product — Narrowing the Boundaries of the Market

One of the most successful innovations in sustainable agriculture has been the establishment of locally branded products. Local products create a smaller and more manageable community of producers, a smaller group to come to agreements, making the decisions to control supply or use sustainable practices easier to manage. The "going local" solution works best when the product has (or can create) distinctive local characteristics or quality that differentiates that product from broader commodity flows.

But creating a local brand is not a long-term solution in and of itself. The principles of sustainable management for this smaller set of producers are *the same as for a larger commodity system.* Production needs to be balanced with the capacity of the resource to regenerate, the ability of the environment to absorb wastes, and the demand for the product. Individual investments need to be balanced with market level production goals. Single processors must not be allowed to control the market unless primary producers have adequate negotiating clout.

Local product successes in many parts of the world show that smaller groups of producers can integrate multiple goals into the management of a natural resource economy. Local successes rely both on continued management discipline and on consumers' loyalty to these locally branded products.

Although not constrained to one locality, products certified as organic, sustainable, or fair trade also reduce the scale of the market to protect the new economy from the drivers of the wider commodity system. In this case, it is not the loyalty of consumers to the locale that makes the solution work, but the loyalty of consumers who desire a particular kind of production method.

All of these scaled-down approaches share a vulnerability. All of them, if they are successful, can grow to recapitulate the problems of larger commodity systems. People investing their energy into such programs will benefit from looking at the mainstream commodity economy and asking:

> When my local, green, product becomes successful will it be produced in other regions and compete in my market?
> Will any of us in this market turn toward consolidation to improve productivity?

Going local or certified is not guaranteed protection against these possibilities.

Global Agreement — Increasing the Boundary of the Solution to All the Players

For the many commodities that don't go directly to a consumer or that serve as raw materials for other products, it is very difficult to create a meaningful local identity. For such products the

appropriate boundary of the solution includes all the producer communities that compete within the same market.

As markets globalize and producers from nations with differing environmental and social standards compete to sell to the same buyers, competition tends to reward those places with the least costly standards. The ability that nations once had to interject goals other than the pursuit of economic efficiency into natural resource systems is fading, and new international structures have yet to become effective.

The challenges at this level of coordination are great. Integrating social and environmental goals into the market system at the global level involves agreement across cultures and nations. But once implemented, these agreements have the potential to create a level playing field and would be the hardest to undermine.

There are signs that this is possible. At different times in history commodity producers from many nations have organized themselves to control their productive capacity. The International Coffee Agreement was one example of this. The OPEC oil cartel is another. Solutions at this global level will also require new multi-national bodies. Organizations like the WTO and Codex show us that such cooperation is possible.

Global cooperation is a huge challenge, but we can at least imagine a few first steps. Commodity producers can reach out to each other across national boundaries, forming associations to create enforceable production agreements. Governments can work together to come to agreements on global environmental and social standards so that the multinational reach of commodity buyers is balanced by multinational protection of social and environmental resources.

Economists and policy makers know how to do these things, experimentally at least. What is needed is the clear political will to produce our global sustenance in a way that ensures that future generations will be able to sustain themselves.

New Thinking — What Kind of Efficiency are We Pursuing Anyway?

This paper has described the core drivers of commodity systems. The harvests of many producers are combined and distributed through a supply chain to an often-global network of consumers. Commodity producers, processors and traders along the commodity chain continually reduce costs by increasing scale and by investing in more efficient technologies and practices. As multiple producers are able to reduce costs and increase production, prices tend to fall, pressuring the remaining producers to follow suit in order to compete. Such competition yields losers, company bankruptcies and farm losses. And it generates winners, most often those who can produce more volume for less cost.

And isn’t this how it ought to be? Isn’t this simply our economic system finding the most efficient ways to meet human needs?

The answer to that depends on what the word "efficient" means to you. If "efficient" means producing the most materials for the least cost of labor, materials, and capital then commodity systems continue to grow more and more efficient.

But the stories and examples in this paper demonstrate that striving to make commodity production more "efficient" in this narrow financial sense can cause the erosion of natural and community resources. The pollution of the Gulf of Mexico, the impoverishment of coffee

growers, the crashing of fisheries — all of these unwanted consequences emerge from the pursuit of one kind of efficiency.

In the preceding chapters we have outlined structural changes to commodity systems. From supply limits to harvest limits to certification for best practices to tax and payments based on stewardship, these system-fixes are ways of expanding the goals of our natural resource economies to encompass more than the standard definition of efficiency.

Limiting supply to keep incomes stable, limiting harvests to protect the future supply of fish or trees, limiting technology to serve both of these goals — these are not efficient steps, at least not as efficiency is generally defined within economic systems. Instead, these are steps that declare that other goals, particularly sustainability and equity, are equally valid and equally urgent priorities of people at the beginning of the 21st century.

Supply control, technology limits, and harvest agreements are difficult to implement not only because they require broad stakeholder agreement, but also because such measures pull commodity systems towards a new kind of efficiency.

Does this mean that the pursuit of efficient use of labor materials and capital is wrong? Of course not. Adding new goals to a system does not mean throwing our old goals away. But it does meaning balancing goals against one another. There will be times when the best thing for nature will increase costs, or when relieving strain on a community lowers the amount of commodity produced. In sustainable commodity systems there will be gray areas. People will need to make value judgements and balance a range of priorities.

What kind of efficiency do we want? What goals do we want our natural resource systems to serve now and into the future? These are not always going to be easy or comfortable questions. Still, we must face the fact that changing commodity systems, as with all of the elements of the transition to sustainability, isn't just about new policies or new best practices. In the end it is also about changing the way we think.

The need to change the thinking of an entire industrial culture feels daunting of course, especially when time seems short and natural resource systems are in such peril.

On the other hand, the idea that human beings have broader goals than the narrow kind of efficiency now guiding most commodity systems, makes such basic sense that we may be surprised by its ability to penetrate into even the most stuck places within commodity systems. Perhaps it is an idea whose time has finally come.

The only way to find out is to experiment with this frame of reference in our efforts to revitalize commodity systems. This understanding, embedded in the right places, could move ideas like harvest limits and supply control from the radical fringe into the mainstream.

Creating truly sustainable flows of raw materials will require working together across lines that have rarely been crossed. Producers, buyers, traders, and consumers, from rich nations and poor ones — all of us will need to ask each other hard questions and listen to the answers.

> With what do we want our commodity systems to be efficient?
> And what do we want our commodity systems to produce efficiently?

These are not questions about system structure, certification protocols, tax policy or quota levels, although society's answers to these questions give shape to tax policy, certification protocols, and quota levels.

These are questions about values, meaning, purpose and responsibility.

Producers don't tend to ask these questions of traders or policy makers or consumers. Consumers don't tend to ask them of producers or commodity buyers or policy makers.

If we did ask such questions of one another, we might learn that everyone from commodity producers to buyers to consumers wants these systems to be efficient with land, water and soil as well as with labor and capital. We might see that all of us hope these systems could produce vibrant communities, biodiversity, clean water, and beautiful countryside as well as plentiful raw materials.

Once we reach such a shared and broadened definition of the efficiency of natural resource economies, we will find that the policies, agreements, and programs to create sustainable commodity systems have been in plain sight all along.