3. Putting Principles into Practice — Examples of Natural Resource Economies That Incorporate Social and Environmental Goals

Systemic Problems Require Structural Fixes

As commodity systems produce an undifferentiated raw material stream, producers compete with one another to produce the greatest volume for the least cost. Competition on these narrow grounds leads commodity systems toward ever higher production levels and ever lower prices. This focus on high production and low costs puts pressure on the ecosystems, families, and communities of commodity producing regions.

Commodity producers are not naïve about these cycles. Living within them day after day, they understand quite clearly the nature of the traps they are caught in — traps that are the sum of individually rational decision-making based on the "rules of the game." But, as any farmer, sawmill owner, or fisherman can tell you, seeing the traps is not enough to avoid them. Such problems cannot be solved at the level of individual producers. Problems arising out of collective behavior will defeat the solutions available to individuals.

A few isolated producers opting out of the efficiency race cannot break the overproduction cycle. In fact as long as most producers increase their productive capacity, anyone who doesn't do so quickly looses customers and looses sales. Harvesters can't afford to incur costs to stay within the sustainable yield of the resource if their competitors invest less in stewardship and offer the same product for a lower price.

Acting as individuals, the only viable option for producers to escape the traps of a commodity economy is to leave the system altogether and focus on a product that can be marketed outside of the structure of that commodity system. This can be accomplished by programs that preserve the history and identity of the product. From wines and cheeses of specific European regions, to high quality lamb delivered directly to restaurants in New York City, to farmers markets and community supported agriculture, there are many examples of producers who have created — or re-created — alternatives to conventional commodities. These examples are very important. They connect people back to the raw materials of consumption, and provide vibrant examples of what healthy food, lumber, and fiber systems look like. By linking consumers directly with the producers of basic raw materials, such initiatives preserve some of the information that is lost in the process of commodification.

While farmers' markets and sheep-milk cheeses deserve all of the attention they receive, we also need to understand other options available for transforming commodity systems. We need to look for solutions that are effective at a larger scale and that are applicable to those raw materials, such as soybeans or paper pulp, that are not well suited to specialty niche markets.

Commodity systems currently dominate world agriculture, fishing and forestry. They affect millions of people and much of the Earth's surface. For the foreseeable future, Iowa will grow more food than can be eaten locally, while New York and Chicago will always need to import food. Landlocked populations will desire fish. Coffee, tea, and cocoa won't be local crops for much of the world's people. The escape of individual producers from these poorly functioning systems — as important as it is — is unlikely to alleviate the pressures that commodities are

placing on ecosystems and communities around the world. When a few producers move off into a niche market, they leave the dominant system, with all of its pressures on resources, ecosystems, and communities in place behind them.

For this reason, the following chapter explores how raw materials can be produced in large amounts and traded around the world with rules and incentives that incorporate goals for the long-term sustainability of the resource, ecosystem, and local communities. This would be a new kind of natural resource economy, something in between the niche markets for specialty wines or handcrafted wood products and the industrial monocultures focused solely on low-cost high-volume extraction of materials from the earth.

As far as we can tell, such natural resource economies do not exist anywhere, yet. But across commodities, all over the world, people are experimenting with changes to the structure of commodity systems in order to balance productivity with other goals. Each of these experiments gives us a window into possibilities. By understanding the successes and the vulnerabilities of these experiments, we begin to understand the packages of agreements, policies, monitoring techniques, and regulations that together would characterize a productive, efficient natural resource economy integrated into the ecology and communities of its region.

Following are examples of some of the most promising cases we know about. These are commodity systems that have undergone structural changes — changes in rules, incentives, or penalties — and that have attempted to balance productive capacity with environmental and social goals. The examples are from all over the world, from fisheries, agriculture, and forestry. Some of the changes were accomplished by collective agreement of producers, some were accomplished by demand from consumers, and some were created by the action of governments. But each of these stories also shares with the others common threads.

In each example, people found the will and the power to change "the rules of the game." They reshaped the system they live or work within so that it could respond to goals broader than high production and low costs. Whether it is balancing the harvest rate with lobster reproduction rate, or paying the costs of good stewardship and fair incomes, these programs demonstrate that commodity systems can respond to social and ecological limits.

But, in all of these stories — even the most successful — the restructured commodity system still exists within and responds to a larger economic system. And so, at the same time that they give us hope for a new kind of commodity system, these stories remind us that change is required not just at the level of particular commodity but also in the structures and assumptions of the global economy.

Escaping Commodity System Traps Using Certification

The strength of collective agreements is that they allow producers to make decisions about multiple goals for their system and take action to balance capacity growth with those other goals. But arriving at collective agreements can be difficult. A successful collective agreement requires that virtually all producers share the intent of the agreement. Enough cooperation to institute a collective agreement may not exist in many natural resource economies. Because of this, it is worth looking at other strategies that allow for even a minority of producers to incorporate environmental or social goals into the way they work.

Certification, for either environmental practices, fair treatment of producers, or regional identity provides one mechanism to incorporate environmental or social goals into a commodity system. Collective agreements require finding sufficient political will among producers to work together to set limits on practices or production levels. In contrast, certification strategies get their momentum from the willingness of consumers to pay more for products produced in accord with their values.

From dolphin-safe tuna to fair-trade coffee to sustainably harvested lumber, certified products are grown or harvested according to higher-than-typical social or environmental standards. Certification involves creation of new minimum standards. A government or non-profit certifying agency monitors production to ensure compliance with the standard.

Organic Certification in Agriculture — Soybeans and Milk

Organic agriculture is a fast growing sector of the agricultural economy in many parts of the world. According to the USDA, the number of certified poultry in the United States has grown from 60,000 in 1992 to 5,000,000 in 2001. Sales of organic milk have risen from 16 million dollars in 1996 to 104 million dollars in 2001[32].

While much organic production happens on small farms and is sold directly to consumers, organic practices are beginning to be seen as an option for traditional commodity growers, as well.

> ***David Petritz, assistant director of the Purdue University Cooperative Extension Service, says the acceptance of organic farming is a dramatic change in agriculture. "Traditional producers now have more than a passing interest in organic farming," he says. "This isn't something they scoff at any longer. Every day, more and more traditional farmers are looking into whether they should convert part of their operation to certified organic.***
>
> ***— Purdue News,*** 1998[33]

The production of certified organic crops is an attempt to address the first two commodity system traps. Growers of traditional agricultural commodities can reduce their costs by using practices that have downstream impacts — externalizing their costs onto the environment. However, the standards of organic production place constraints on this pattern of behavior. The competition to offer a low price still exists, but now the minimum acceptable practices are much healthier for the farm family, the soil, and the water. In this sense, organic certification limits the erosion of a natural resource (the soil) and the accumulation of wastes (herbicides and pesticides) that characterize so many agricultural commodity systems.

Figure 3-10 shows, in systems terms, how the certification route helps counteract the waste generation trap of commodity systems. As waste levels grow the demand for certified organic

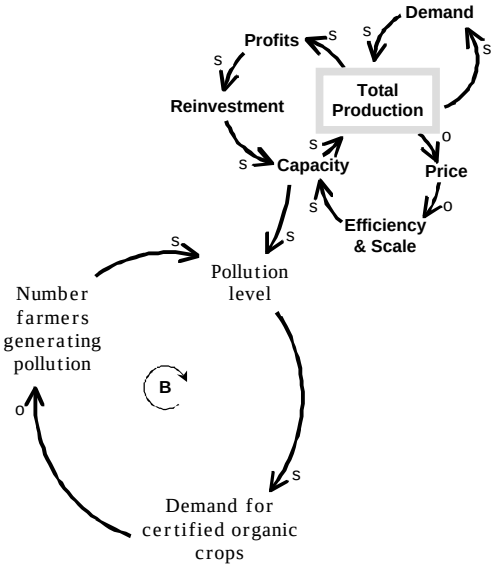
products rises out of health and environmental concerns. Producers respond to the demand by changing growing techniques, and the total level of waste generated is reduced.

The enforcement of the certification requirements is a key aspect of this strategy. Since producers are not rewarded for using standards that are higher than the certified standards, there is no incentive for better performance. There may even be incentives for the most powerful producers to attempt to dilute the standards.

> ***"The current trend," says Robert Simmons, international team leader for the private certifying agency, Farm Verified Organic, "seems to be a race to the bottom for standards." Last month, for example, Fieldale Farms, a Georgia chicken processor that slaughters several hundred thousand organic chickens a month, sought a waiver from USDA regulations requiring organically grown chickens be fed 100 percent organically grown feed. Not enough organic feed was available to meet company demands, a Fieldale spokesperson told The Atlanta Journal Constitution***
>
> — Linda Baker, 2002[34]

High hopes have also been pinned on organic certification as a mechanism to avoid the third trap of commodity systems, their tendency to erode incomes of producers and to consolidate production in fewer and fewer hands. It may be too soon to know for sure if organic certification can really help with this trap, but there are many signs which suggest that certification based on production methods alone is not a dependable remedy for the trap of consolidation in the face of falling incomes.

FIGURE 3-10 Addressing the Pollution Trap with Certification Program



This diagram is adapted from Figure 2-8. The *Production growth drivers* lead to more *Pollution level*, but that level doesn't affect the *Production growth drivers.* It can, however, increase the level of health concerns and, thus, the *Demand for certified organic crop*. More demand means a greater *Number of farmers growing organic crops* and also less *Waste generation.*

> ***In California, five giant farms control half of the state's $400 million organic produce market. Horizon Organic, a publicly traded Colorado-based company, controls more than 70 percent of the nation's organic milk market. More than 30 percent of its milk is produced at two industrial-size dairies, one of which milks close to 5,000 cows. Corporate food giant General Mills now owns leading organic manufacturer Cascadia Farms, Kraft Foods owns Boca Burgers, and Heinz, reported the Wall Street Journal this June, is seeking to develop an organic ketchup to sell at Whole Foods and Wild Oats, the nation's biggest natural foods supermarkets.***
>
> — Linda Baker, 2002[35]

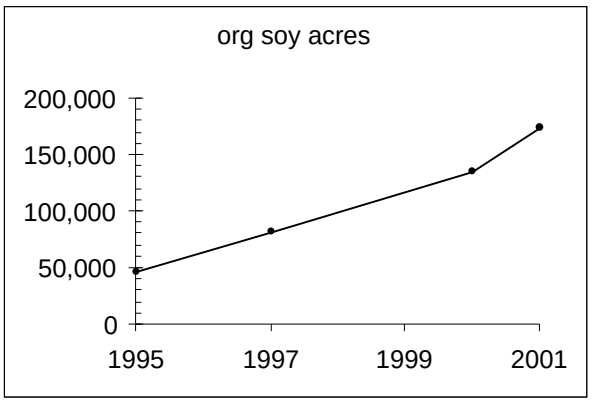
Statistics like these hint that organic certification alone is an incomplete solution, one that addresses ecological concerns but may not be so effective for social concerns. Could additional levels of structural change be added on to the certification route? To consider this question we turn first to the production of organic soybeans.

Organic Soybeans

Soybeans have shared in the recent rapid growth of organic agriculture. Figure 3-11 shows the increase in the number of acres of organic soybeans over the past seven years, although despite such rapid growth, organic soybeans are still a small fraction of the total commodity stream, making up less than one percent of the total US soybean production. [36]

These soybeans are sold primarily into the Japanese market for organic tofu. The rising demand for organic meat is also increasing the demand for organic soy to feed to livestock.

FIGURE 3-11 U.S. Organic Soy Production

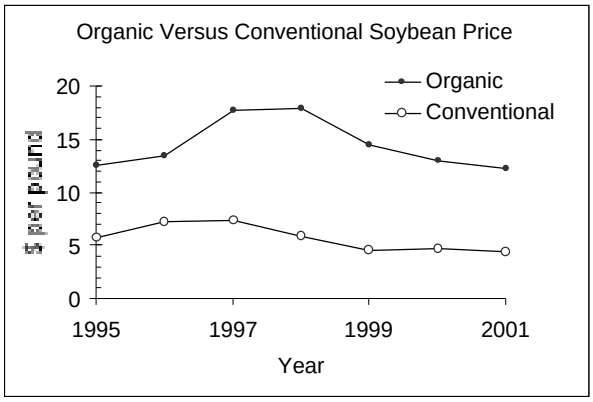


Source USDA-ERS

It is clear that the production practices required for organic certification could go a long way towards pulling the soybean system out of the resource and waste traps of commodity systems. If substantial acres became devoted to organic production it would indeed have a strong impact on the health of the Mississippi River watershed.

To date, US growers of organic soybeans have received significant price premiums compared to growers of conventional soybeans (Figure 3-12). The existence of higher prices for organic soybeans is, at first glance, a very hopeful sign.

FIGURE 3-12 Certified Organic and Conventional Soybean Prices in the U.S.



Bertramsen and Dobbs. Economics Commentator #426. South Dakota State University 2002

It is too early in the growth of the organic soybean industry to know for sure if going organic is a solution to falling incomes and consolidation. But, the currently available data and anecdotes suggest that if the system is to avoid this trap, it will be because additional changes in system structure — beyond organic certification — will have been implemented.

1997 and 1998 saw the highest prices for organic soybeans. Such high prices brought other growers into organic production, spurring the growth in organic soy acres we saw in Figure 3-11. Although organic soybean prices are still high relative to conventional

prices, price declines have accompanied increases in production over the past several years. In this way organic soybeans behave just like any other non-certified commodity — as production rises, prices fall.

So far, growth in demand for organic soybeans has been able to absorb much of the growth in production, but the declining price trend over time stands as a warning signal. Certification only brings a price premium when supply is matched with demand for the certified product. In addition, the issue of power differences between the many relatively small producers and the few larger buyers can put pressure on the price of certified commodities just as it does for standard commodities.

There are signs that organic soybean growers recognize these two points, and are organizing themselves to deal with these issues. Organic soybean grower cooperatives are now beginning to work with each other to market their beans to large soybean processors. For instance, in 2000 several organic producer groups united to form OFARM, The Organic Farmers Agency for Relationship Marketing. [37]

> ***OFARM benefits include sharing price information with other OFARM producer groups, developing reliable inventory information, keeping up with markets and market trends, eliminating one-on-one negotiations with buyers, developing and monitoring producer-friendly contracts, developing and monitoring a list of credit-worthy buyers for members and enhancing opportunities to add new crops and agronomic practices to farm rotations.***
>
> ***— The New Ulm Journal,*** 2002[38]

While not as formalized as the collective agreements in rock lobster or tobacco, the collective action taken by groups like OFARM does give producers a way to address the power differential between themselves and large buyers.

In addition, as of early 2002, newspaper accounts of OFARM's activities indicate that the group is "talking about supply control so that we don't all plant the same thing." [39]

It is too soon to be sure that organic soybean growers will be able to come to collective agreements that allow them to manage their commodity's productive capacity. Still, these growers' first steps toward organizing for collective actions show that it is possible to link control of supply with demand for certified commodities.

Unfortunately, even as these hopeful signs emerge, there are also signs that the same issues that undermined the fifty-year old Burley tobacco program make the US organic soybean growers vulnerable. Organic soybeans are sold into an international market, and growers in other countries, especially China and Brazil, sell into the same pool as US organic soy producers.

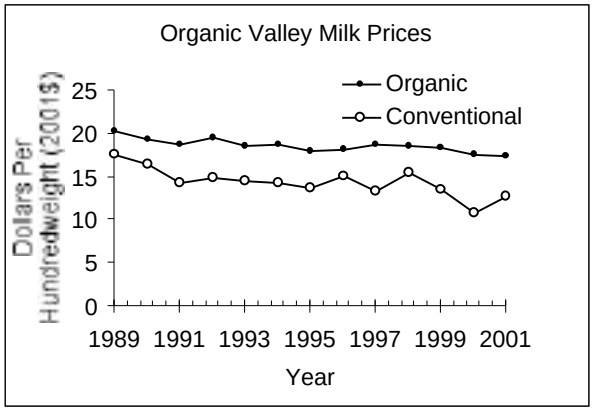
> ***Robert Carlson, president of the North Dakota Farmers Union and a member of the Agriculture Trade Advisory Committee to the USDA in a tele-conference October 25 from Jamestown, North Dakota, said one of the things they learned was that the Chinese government has set aside an area in central China that they claim is not subject to pollution. The purpose of setting aside the 250,000 acres was to use this land strictly for organic production. With the output from this region, they hope to capture "a big chunk" of the organic food market in Japan, Carlson said.***
>
> ***— Resource News International,*** 2000 [40]

Since current US organic soybean acreage is less than 200,000 (Figure 25), the entry of 250,000 Chinese acres into the same market will limit the ability of agreements among US soybean producers to keep overall production in line with demand. Perhaps rising demand — maybe in

the form of demand for organic animal feed — can absorb the production not only of increasing numbers of US acres, but also of growing organic soybean harvests from China and Brazil. If not, organic certification and supply control within national boundaries seem unlikely to be enough to keep organic soybean producer incomes stable and high. The lessons of other commodities suggest that if demand for organic soybeans stops growing, only a collective agreement to limit production at the level of all of the producers who sell into the international market for organic soybeans will hold prices at their currently high level.

Organic Valley Milk Cooperative

FIGURE 3-13 Certified Organic and Conventional Milk Prices in the U.S.



source: Organic Valley Milk

Figure 3-13 shows data collected over more than ten years from the Organic Valley Corporation, the processing arm of the CROPP cooperative, a national cooperative of organic dairy (and other) producers. It shows that, in constant dollar terms, organic producers have received a price premium relative to conventional milk producers.

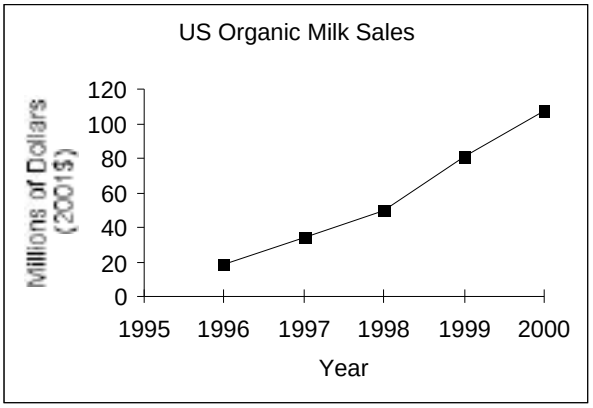
Such stable prices to producers over the past ten years clearly contradict the pattern of falling prices seen across most commodity systems. Organic milk consumption has been growing strongly (Figure 3-14), absorbing the tendency towards increased production seen in other commodity systems. Such growing demand has moderated the overproduction/falling prices trap that will reassert itself if demand lags behind supply.

Even at this time of rising demand, the members of Organic Valley have developed agreements to keep production matched to demand. Most importantly, they will not accept new members unless there are indications of adequate demand for the milk of the new producers.

> ***CROPP membership is dependent on a number of considerations. Location and our needs for supply are the first considerations. To keep our pay prices high to our farmers, we must carefully match supply with sales.***
>
> — Organic Valley website, 2002[41]

In the Organic Valley organization, all decisions (including the annual setting of prices) are made democratically through the farmer-members and their elected board of directors. Each farmer

FIGURE 3-14 Organic Milk Production



USDA-ERS

member has the same voting power, regardless of size of operation, and there is no minimum herd size for entry into the cooperative.[42] Thus, in terms of issues of governance and participation, the trends towards consolidation are moderated. This fact may be responsible for the relatively small herd sizes of Organic Valley members — an average herd of forty-five cows. On the other hand, there are not explicit measures in the cooperative to limit consolidation or growth in scale.

In this example, just as is beginning to happen in organic soybeans, the tool of organic certification has been combined with other tools that address the economic and social aspects of the system. It is limits on production (via limits on new members of the cooperative) and the cooperative structure of the organization that lessen the power imbalance between a small number of large processors and large number of small producers typically seen in commodity systems.

FOR MORE INFORMATION ON ORGANIC CERTIFICATION

US Department of Agriculture
http://www.ers.usda.gov/Briefing/Organic/

International Federation of Organic Agriculture Movements
http://www.organicts.com/organic_info/index.html

Organic Valley Milk
http://www.organicvalley.com

Fair Trade Certification — Coffee

Just as a commodity can be certified for its practices relative to ecological limits, certification programs also exist for social characteristics. These labels provide consumers with assurances that the producers of specific commodities work in decent conditions and earn a fair wage.

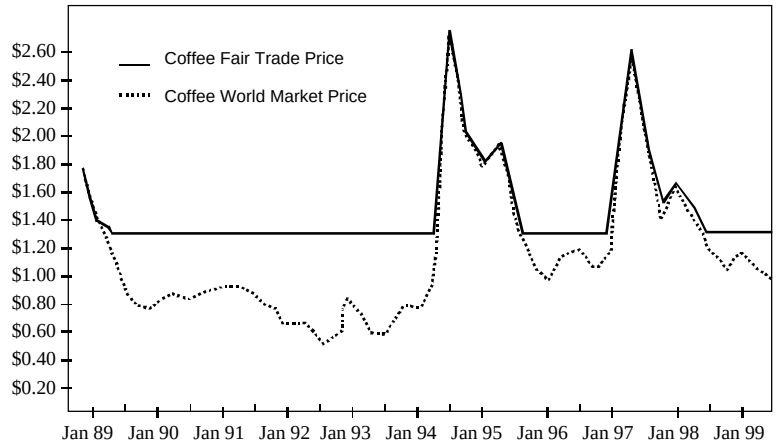
While organic standards have recently been formalized into a single set of regulations in the United States, fair trade certification can mean slightly different things depending upon which body is doing the certifying. Still, the basic intent is the same across many programs. The Fair Trade Labeling Organization's certification conditions are a good example of what is typical.[43]

- price covers the cost of production
- social premium for development purposes
- partial payment in advance to avoid small producer organizations falling into debt
- contracts that allow long term production planning and sustainable production practices
- farmer cooperatives that use a democratic structure
- plantations and factory workers receive decent wages, good housing, minimum health and safety standards, rights to unionize, no child or forced labor;
- minimum environmental requirements.

As with organic products, the demand for Fair Trade Products is increasing — by about 40 percent in 2001. [44] Bearing a "Fair Trade" label, products such as tea, cocoa, coffee, and bananas can be found in more and more mainstream retail outlets and grocery stores.

The impact on the producers who supply these products is large. Take for example coffee. The coffee commodity system has all of the elements of the classic commodity traps we have explored in this paper: many small producers scattered over fifty countries, four large multinational buyers, and a long chain of middlemen between the two[45] . The past few years have seen overproduction and prices below the cost of production. In the midst of this system growers who produce for Fair Trade groups like Equal Exchange have received steady prices that are higher than conventional prices (Figure 3-15).

FIGURE 3-15 World Coffee Prices



Source: Equal Exchange 2001 Ann. Report
http://www.equalexchange.org/downloads/Annual%20Report%202001.pdf

Ongoing challenges in Fair Trade certification:

Although Fair Trade certification attempts to pull producers out of all three traps of commodity systems, each program still exists within the context of the Production Growth Drivers.

For instance, as we saw in the forestry case in Chapter Two, rising profits often are reinvested in productive capacity. Anecdotes such as the following suggest that tropical coffee farmers operate according to the same logic as northern mill owners.

> ***Santiago Paz, General Manager of CEPICAFE, a small farmer cooperative in Peru, explains, "The above-market premiums earned from fair trade have enabled our members to invest in improving their farms and acquiring small machinery, all of which helps to improve coffee quality. In addition, this added income allows us to fix up our homes, cover medical expenses, and provide an education for our children."***
>
> — Equal Exchange, 2002[46]

Clearly such programs can lead to direct increases in the living standards of coffee growers, but in this story one can see potential investments that could boost the quantity of production as well as the quality. It is worth noting that rising production is the main reason for falling incomes in the first place, so it will be important for the Fair Trade movement to avoid this trap by finding ways to match production with the demand for the certified product.

Finally, like organic certification, Fair Trade products today represent only a tiny fraction of total global commodity flows. Keeping our attention on all of the producers suffering under the weight of rock-bottom coffee prices, we can see that Fair Trade is a part of a solution. But, without very substantial increases in demand for these products, it remains an incomplete one.

> ***Not all poor producers can move into the premium market of specialty arabica coffees. If too many producers try to move into this segment of the market, it would cease to be a niche capable of commanding high prices. Simply supporting producers in the specialty market cannot be a solution to the systemic problems affecting millions of farmers.***

— ***Mugged: Poverty in Your Coffee Cup,*** 2002 [47]

Although certified products are differentiated and retain some of their history of production, many of the same pressures that have historically pushed conventional products toward commodification still exist, and there is a danger that certified raw materials might avoid one trap of a commodity system only to capitulate to another.

With some certification schemes the incentives to grow larger and produce more still exist. Within this context certification changes the rules, limiting the social and environmental impacts of commodity production by allowing only certain practices.

Some certification requirements do interrupt the core driving dynamics of commodity systems. For instance, the Marine Stewardship Council certification of fisheries as sustainable requires that producers have implemented plans to keep catch rates below the sustainable harvest rate. As we saw in the previous section, this is a step that intervenes to limit the role of the Production Growth Drivers, and a step that usually requires collective agreement to implement. Other certification rules, for instance the prohibition on chemical fertilizers in organic farming, simply alter practices, not the core, driving dynamics.

FOR MORE INFORMATION ON FAIR TRADE

Equal Exchange
http://www.equalexchange.org
Fair Trade Labelling Organization International
http://www.fairtrade.net/
Oxfam's Fair Trade Campaign
http://www.maketradefair.com/

Certification — Summary

From Organic soybeans and milk to Fair Trade coffee, several themes have developed as we look at programs to certify social and environmental attributes of commodity production.

1. CERTIFICATION IS AN IMPORTANT STEP IN BRINGING MULTIPLE GOALS INTO COMMODITY SYSTEMS.

   Certification allows at least some producers to survive economically while stewarding a resource or earning a fair wage.

2. CERTIFICATION CHANGES THE RANGE OF ALLOWED PRACTICES, BUT IT DOES NOT NECESSARILY INTERRUPT THE PRODUCTION GROWTH DRIVERS

   Whether it is requirements about particular farming and fishing techniques or designations of social practices, certification rules change the context within which producers attempt to produce more with lower costs. But, certified systems can be pulled into one or more of the traps of commodity systems. If environmental practices are certified but attention is not also directed toward balancing production with demand, the system can fall into the trap of overproduction and declining incomes. If, in a global market, environmental goals are specified but not labor practices, the environmentally friendly commodity will eventually be produced wherever labor is the least expensive.

3. CERTIFICATION PROGRAMS NEED TO BUILD IN ALL THE GOALS THAT ARE HELD FOR A SYSTEMS – SOCIAL, ECONOMIC AND ENVIRONMENTAL

   The Production Growth Drivers put pressure on resources, environment and communities. If only some of these pressures are addressed in certification programs, the others may grow into problems themselves. Don't expect that organic products will always bring a price premium or always be associated with good working conditions. Don't assume that Fair Trade products will always be good for the environment. Far-sighted certification programs will make sure to build in all the goals they have for a commodity into the certification conditions.

4. THE HIGHER EARNINGS ASSOCIATED WITH CERTIFICATION MAY BE REINVESTED IN PRODUCTIVE CAPACITY, THEREBY RAISING THE HARVEST AND PRODUCTION RATES.

   Certification programs need to anticipate consequences of rising incomes, and producers groups might want to consider agreements that either channel such resources into practices that improve operations without boosting production or ensure that any increase in production is matched to demand and is first allocated to smaller producers.

5. NOT ALL GOALS NEED TO BE SERVED BY CERTIFICATION.

   Certification programs often work well as one aspect of "system redesign", but they need not be the only aspect. For instance certification might work well in one region for improving environmental performance, but cooperative organization or collective agreements may be required to address the imbalance of power between producers and buyers or to control the tendency toward overproduction. Be open to other mechanisms to work alongside the certification program

6. VOLUNTARY CONSUMER BEHAVIOR IS THE POWER BEHIND AND THE LIMIT OF CERTIFICATION SCHEMES.

   Certification schemes connect innovative producers with dedicated consumers. Because of this, certification schemes begin to build awareness of sustainable production methods and a base of informed consumers. But certification schemes' dependence on consumer demand also seems (at least today) to limit the applicability of this category of solution to the majority of producers, farmland, fisheries and forests that are struggling with the traps of commodity systems. By proving that it is possible to produce and trade commodities in a way that incorporates multiple goals, these systems are hugely valuable. But without major transformation in consumer attitude, certification schemes on their own seem unlikely to absorb anything close to the bulk of current commodity flows.

   While education and communication efforts can be expected to boost consumer willingness to pay higher prices for certified products, the problems of commodity economies can not be solved by certification at a rate faster than this new demand can be created.

7. CELEBRATE CERTIFICATION SCHEMES FOR THE LOCAL DIFFERENCES THEY MAKE AND THE IMPORTANT ROLE THEY HAVE IN AWARENESS BUILDING, BUT DO NOT COUNT ON THEM TO CHANGE THE BULK OF COMMODITY FLOWS IN THE NEAR FUTURE.