

Backgrounder on the Potential Market for Sustainable Coffee in North America

Commission for Environmental Cooperation

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EXECUTIVE SUMMARY

One of the great assets of North America is the richness of its biodiversity. Because of their familiarity to us and the many recognized services that they perform in our environment, birds are emblematic of this rich diversity. North America is home to nearly 20 percent of the world's bird species. More than 1,100 species are found in Mexico, 700 in the United States and 575 in Canada. Hundreds of these species are shared among all three countries, and many are only found in North America. Several hundreds of these bird species are designated as vulnerable and the populations of many others are declining.

As part of its program to conserve North American birds and other species, and in the process help stem the alarming loss of forest in Mexico—estimated at between 500,000 and 1.2 million hectares per year, the Commission for Environmental Cooperation has developed a wide-ranging initiative to study and promote the shade-grown coffee industry indigenous to Mexico. Section One of this paper (“Biodiversity, Coffee and the Coffee Market in Mexico”) addresses the biodiversity side of this natural resource–human activity equation.

Areas where shade coffee is produced exhibit higher levels of biodiversity of flora, birds, and arthropods, especially in comparison to land cleared for growing sun-grown coffee or grazing cattle. Driving increases in agricultural production in Mexico, as in other similar countries, are two divergent processes: extensification and intensification. Extensification increases production by bringing more land under production (hence, forest clearing), while intensification increases production by increasing yield per unit of land (chiefly through agricultural inputs such as chemical fertilizers or pesticides, or by planting crop varieties that produce higher yields per plant). Either is inimical to the traditional shade-based production of Mexican coffee and to preserving biodiversity.

Mexico is the world's fifth-largest coffee producer, producing well over six million 60-kg bags of coffee. Total area dedicated to coffee production in Mexico increased from 597,631 ha in 1992–93 to 761,162 ha in 1998–99, a 27 percent increase. Coffee now represents 15 percent of Mexico's total cultivated land and 9.5 percent of the value of the country's agricultural production. The proportion of shade coffee production in Mexico varies from 60 to 99 percent of the total Mexican coffee crop, depending on which definition is used for “shade” coffee. Mexico is the largest producer of organic coffee, accounting for 20 percent of world organic coffee exports. Organic, shade-grown and fair trade coffee classifications overlap but they are not coterminous.

Of prime importance in aiding shade coffee producers, of course, is developing information on the prospective market for their crop. Here, establishing something about the potential interest among North American coffee consumers is vital, especially those in the US: the US coffee market is the largest in the world, with roughly 114 million coffee drinkers and “specialty coffee” (a category which captures organic, shade-grown and fair trade coffee) sales are growing very fast (20 to 25 percent in 2000 alone). However, accessing this market is made more difficult by problems relating to the classification and labeling of shade-grown coffee.

The paper presents an overview of research that has been undertaken to evaluate the general degree of public interest in green goods and services (Section Two—“Demand and Willingness to Pay for Green Goods”), such as the results of an international survey that found that the proportion of consumers who check “to see if contents are environmentally safe” jumped from 19

to 25 percent between 1996 and 1997, and another that found that 66 percent of Americans say they try to buy products that do less environmental damage.

In fact, there appears to be considerable willingness among North American consumers generally to pay slightly higher prices for many different green goods and services, including electricity, coffee, tourism, apples, and green goods. Of particular interest to the CEC are results for coffee: an industry survey by Giovannucci (2001) of North American specialty coffee reported that “sustainable” coffees command between US\$0.52 and US\$0.62 more per pound than regular coffee; another survey by the CEC found that 22 percent of Americans, 42 percent of Canadians and 36 percent of Mexicans would be willing to pay US\$1 more per pound for shade-grown coffee.

The Giovannucci study also estimated the total global market for “sustainable” coffee to be US\$455 million and the North American market at between US\$152 and US\$188 million. Respondents who believed that the market for “sustainable” coffee will keep growing, predicted an average growth over the next two years of 26.5 percent. The last part of the section reviews different procurement and demand building activities undertaken by governments, NGOs, and the private sector. For example, one might note that the cities of Chicago, Toronto, Oakland, Santa Barbara, Santa Monica, and Seattle, and the LA World Airports all have set minimum renewable portfolio standards for the electricity that they buy.

In February 2001, the CEC held a meeting with representatives of the North American coffee industry to elicit their opinions on the challenges facing the sustainable coffee market in North America. That a demand exists for ‘sustainable’ coffee was recognized, but so were the challenges to its being bought and sold by industry representatives. The main challenges are that the supply of high quality coffee needs to be dependable and the myriad of labels defining the different types of ‘sustainable’ coffee currently in use must be simplified. Greater consumer awareness is also needed. Section Three of the paper —“Lessons Learned from CEC Work on Environmental Goods and Services with Emphasis on Coffee”— presents possible areas of research, as well as general and specific policy recommendations for the CEC.

The CEC is helping to catalyze the development of the Mexican Sustainable Coffee Council, which will work to manage and conserve the natural resources and agro-ecosystems in the coffee producing regions, control the quality of the coffee produced, and promote a better quality of life among growers and their communities. Finally, the section ends with an overview of the main lessons learned by the CEC through its work on green goods and services, namely that a clear understanding is needed:

- about the environmental effects, of both “mainstream” as well as environmentally preferable markets;
- of essential consumer preferences for “green goods and services” (often, green goods and services are provided by smaller-scale producers—as such, understanding green markets involves understanding the specific challenges of small and medium-size enterprises);
- of the pivotal role played by local communities in helping to overcome the challenges associated with the provision of green goods and services;
- of the importance played by intermediaries between producers and consumers in the functioning of green goods and services markets; and
- how important it is that labels and certification schemes should be accessible and easily understandable to be effective.

Another lesson is that by comparing different schemes and practices, lessons about environmental criteria can be arranged into “best practices” that help all stakeholders.

Important information gaps also remain about the financial aspects of green goods and services. There are many roles for public policy in supporting green markets, and currently the CEC is beginning to address some of these related to public and private sector micro-finance. Such roles depend on the nature of the investment itself, but can include underwriting or partially securing external finance, or supporting capacity building or infrastructure support, which have long been identified as important challenges to micro-finance.

INTRODUCTION

As an environmental organization, the CEC has a mandate to find ways of promoting environmental protection in general, and biodiversity preservation, in particular. The CEC's mandate covers the three NAFTA countries where, to date, we are losing the battle to save biodiversity (more on this below). The figures speak for themselves. Our goal, therefore, is straightforward: to get a clearer reading as to whether efforts to support shade or sustainably produced coffee can actually deliver environmental benefits. How can the benefits that exist in principle be maximized in practice, working within international coffee markets?

Although we recognize that important gaps remain in linking coffee production to losses of biodiversity, we have been, and are continually, working to fill those data gaps for Mexico. If the lessons that come from scientific assessment show clearly that sustainably produced coffee, leaving aside definitions for a moment, can yield positive environmental benefits, then it is important to know whether a viable market actually exists.

In order to establish whether such a market does indeed exist, we decided to consult stakeholders of the North American coffee industry at a meeting that was held in February of 2001 in New York City. The goal of the meeting was to elicit from industry stakeholders their opinions on questions relating to the market potential for sustainable coffee in North America. The types of questions we were particularly interested in asking were: whether there was a viable market for sustainable coffee in North America, and if so, why is more not traded? What additional data would industry representatives need to turn the putative benefits of sustainably produced coffee into a reality? Essentially, we wanted to get a better sense of the questions that the industry was asking with respect to sustainable coffee.

The first two sections of this document were prepared as a backgrounder for the coffee industry meeting. It compiled scientific information relating to biodiversity and coffee production in Mexico, the production side of the coffee market in Mexico, the consumption side in the rest of North America, as well as on markets, willingness to pay, demand for other specific green goods (like tourism and electricity), willingness to pay and demand for green goods more broadly as well as environmental awareness and consumer choice more generally. There was considerable interest in the backgrounder so we continued to update it as new information became available and decided to publish it so that the information would be made publicly available. This version of the backgrounder also includes: a synopsis of the results of the coffee industry meeting; a description of the principles and establishment of the Mexican Sustainable Coffee Council, an initiative catalyzed partly by the CEC's involvement; a description of the lessons learned by the CEC from its work on green goods and services.

It was recognized that buyers purchase coffee from a number of countries, and that that mix changes daily, depending on price, climate, volumes, quality, etc. Our interest in Mexico is based partly on the CEC's mandate, but also on the fact that the lessons we are learning do not relate solely to Mexico. They are of considerable importance to other coffee producing countries. Moreover, Mexico is emerging as a kind of pivot point for other work building closer hemispheric links. The US administration has signaled the importance it places on Mexico, in a number of areas.

1—BIODIVERSITY, COFFEE AND THE COFFEE MARKET IN MEXICO

North America is home to one of the world's richest varieties of flora and fauna. Mexico is particularly diverse, with over one-tenth of the world's entire heritage of biodiversity. The loss of bird species across North America is now taking on alarming proportions, with several hundred species designated as vulnerable and many others undergoing widespread population declines. Efforts to protect birds and their habitats are being carried out in each country of North America, but significant gaps still exist. The only way the gaps can be closed is to make a strategy that addresses the needs of birds cohesively across the continent and that is why we are working with the Biodiversity Conservation working group on Green Goods and Services projects.

In their roles in insect pest control, plant pollination and seed dispersal, birds are an integral part of dynamic ecosystems and provide services worth hundreds of millions of dollars to agricultural and forest industries each year. The tremendous interest in birdwatching is a cornerstone of the rapidly growing ecotourism industry, which represents billions of dollars in revenue across the continent.

North America, with its extensive biodiversity, is home to nearly 20 percent of the world's birds. More than 1,100 species are found in Mexico, 700 in the United States and 575 in Canada. Hundreds of these species are shared among all three countries, and many are only found in North America.

There is a growing body of scientific evidence which shows that this heritage is under assault from human activity. A 2001 study commissioned by the CEC by the Institute of Geography at Mexico's National Autonomous University (UNAM) reveals that in the main coffee growing regions of Mexico, 283,000 hectares of natural cover and forested lands were lost between 1993 and 2000, representing a one percent annual loss of these areas over this period. At the same time, agricultural land has expanded by 226,000 hectares, representing an annual expansion rate of over one percent. Some of this agricultural expansion has taken place within Mexico's High Priority Areas for Biodiversity Conservation (HPABC). In fact, agricultural expansion has led to a 5.7 percent deforestation rate in these HPABCs between 1993 and 2000, and caused an even greater environmental impact there than agricultural expansion in other regions. These figures need to be seen against clearly alarming rates of forest losses in Mexico as a whole: estimates vary but are in the range of 500,000 to as much as 1.2 million hectares per year.

We are assembling information on this. However, some of the important data gaps alluded to earlier are precisely here: understanding exactly what is happening on the ground, and linking rates of forest loss in general with coffee production in particular. We are working with UNAM, Resources for the Future, and others to piece together a robust empirical understanding of these links and implications for coffee production.

Of particular interest to the CEC is the link between shade-grown coffee and biodiversity. Mexico produces coffee under a continuum of shade systems. There are three coffee systems that use no or few chemicals, the traditional rustic or mountain, the traditional polyculture, and the commercial polyculture system. In the first system, coffee substitutes for plants growing on the forest floor. In the second system, coffee and other commercial crops replace naturally occurring species found on the forest floor. In the third, the original forest is completely removed and replaced with coffee and shade trees. This last system uses chemicals and has an average canopy of 15 m (as opposed to 20–30 m for the other systems). These three systems, however, are rich in biodiversity. Depending on the source, shade-grown coffee represents between 60–99 percent of the total coffee area (see Table 1).

Table 1: Various estimates of shade coffee percentages in Mexico

Source	% shade production
<i>Consejo Mexicano del Café</i> (CEC 1999a)	99
Moguel & Toledo (1999)	89
ITDS (2001)	83
Moguel & Toledo (1999)	60–70*
*Includes 3 of the 5 Mexican coffee systems—rustic, traditional polyculture, and commercial polyculture—but excluding shaded monoculture with leguminous trees and unshaded monoculture.	

A recent paper prepared for the CEC by the International Centre for Research in Agroforestry in Lima (ICRAF) has compiled a great deal of information regarding the relationship between shade coffee systems and biodiversity (ICRAF 2001). The study surveyed research relating to biodiversity of flora, birds, mammals, reptiles and amphibians, arthropods and microbes in shade coffee systems. The key findings of this report are:

1. Biodiversity of flora is very high in rustic and traditional polyculture shade coffee systems.
2. Birds are found in greater abundance and diversity in shaded coffee systems than in unshaded systems, and have been found to be higher even than in some natural forests. What is more, bird species richness falls sharply in less shaded, less diverse coffee systems, because food sources like fruit, seeds and insects are less diverse and less abundant.
3. Mammals favour shade systems and also benefit from the greater diversity found within them.
4. Arthropod species richness is greater in shaded systems compared to unshaded systems

The ICRAF report can be found online at <www.cec.org>.

In the long run one of the most important questions surrounding coffee production and biodiversity is whether or not coffee production on the Mexican forest margin promotes or slows deforestation? This is an empirical question whose answer remains to be seen, a question which the CEC will continue to investigate in the future.

The CEC has realized that the traditional methods of protecting biodiversity through the creation of protected areas, or the development of regulations to protect endangered species, have not been sufficient to win the fight to protect biodiversity. This is why we are putting so much emphasis on shade coffee, one aspect of our biodiversity protection strategy which pursues the twin goals of conservation and economic opportunity. The other goods and services we work on as part of this strategy are: sustainable tourism, renewable energy, and sustainable production of chamaedorea palms.

INTENSIFICATION AND DEFORESTATION ON THE FOREST MARGIN

This section reviews the drivers of deforestation and the debate over the impact of agricultural intensification on forests in tropical areas. Extensification increases production by bringing more land under production, while intensification increases production by increasing yield per unit of land.

Two views prevail on the impact of agricultural intensification on forests in tropical agriculture. One states that food requirements can be met by increased production from existing agricultural land, thereby removing pressure from forested areas (marginal areas). The other maintains that

increased profitability associated with technological progress in frontier agriculture will stimulate deforestation (Angelsen and Kaimowitz 2000).

However, Kaimowitz and Angelsen (1998) found that empirical data on the deforestation effect of agricultural intensification are ambiguous. The history of tropical agriculture also provides a multitude of examples in which the adoption of new technologies, in combination with the expansion of market access for crops such as bananas, cocoa, coffee, oil palm, rubber and sugar cane, have led to widespread deforestation (Barraclough and Ghimire 1995). In these cases, technological progress induced more deforestation by making conversion of forests to agricultural land more profitable; it did not remove the pressure from the forest.

Can shade-grown coffee offset some of the negative environmental impacts of agricultural extensification and intensification of coffee production? We do not yet have empirical evidence to answer this question, but we are working closely with UNAM and Resources for the Future to find the answer.

COFFEE PRODUCTION IN MEXICO AND THE WORLD

Modernization of coffee farms is occurring throughout the coffee producing regions of the world. By the beginning of the 1990s, 1.1 million hectares of land growing coffee in Mexico, Colombia, Central America and the Caribbean had been converted into modern, technified coffee farms from a total of 2.8 million hectares (Rice and Ward 1997).

Mexico is the world's fifth-largest coffee producer, producing well over 6 million 60 kg bags of coffee (See Table 2). Total area dedicated to coffee production in Mexico increased from 597,631 ha in 1992–93 to 761,162 ha in 1998–99, a 27 percent increase. Coffee now represents 15 percent of Mexico's total cultivated land and 9.5 percent of the value of the country's agricultural production.

Table 2: Top Five Producer Countries in the World

Total production (in 000's of 60 kg bags) in crop year 2000		
Country	Type of Coffee	Amount
Brazil	(R)	31,100
Colombia	(A)	12,000
Vietnam	(R)	11,350
Indonesia	(R/A)	7,300
México	(A)	6,338

Mexican export earnings increased by US\$100,000 between 1994–95 and 1997–98 from US\$678,043 to US\$770,731. This value decreased to US\$550,821 in 1998–99 due to low coffee prices.

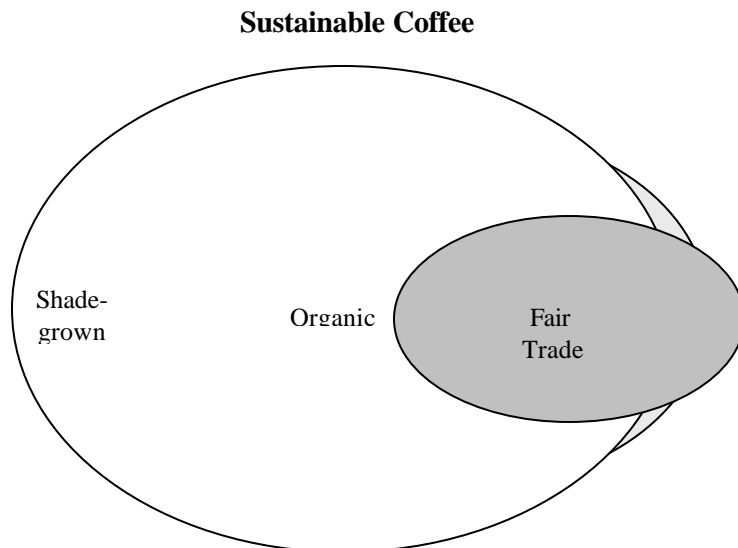
In 1997–98, organic exports represented 6.5 percent of coffee export earnings, this amount decreased to four percent in 1998–99, after having increased three percent since 1994–95. Therefore, organic coffee was hit more severely by the slump in coffee prices than traditional coffee. This drop, however, is due to a decrease in volume and not in prices.

Mexico continues to be the leader in organic coffee exports, accounting for 20 percent of total organic coffee exports worldwide (Moguel and Toledo 1999). Data from the Consejo Mexicano

del Café¹ indicate that the price for organic coffee was 30.7 percent higher per pound in 1998–99 than for non-organic coffee: up from 10.6 percent in 1997–98, the lowest premium price year since 1994–95. The premium has varied between US\$3 in 1994–95, US\$3.6 in 1996–97, down to US\$1.6 in 1997–98 and back up to US\$3 in 1998–99.

ORGANIC, SHADE-GROWN AND FAIR TRADE COFFEE—HOW THEY OVERLAP

In practice, it is generally true that most Fair Trade coffee is organic, and that most organic coffee is also shade-grown, but neither of these points are true the other way around (see Ven diagram at right). It is estimated that 70 to 80 percent of Fair Trade farmers are also organic (Rice and McLean 1999). And, according to Scott Patterson of Peace Coffee, most organic coffee is shade-grown because organic coffee does not use pesticides or off-farm fertilizers. It still needs its nutrients to come from somewhere; the best resource is from the biodiversity surrounding the crop. However, not all shade-grown coffee is organic or Fair Trade, and not all organic coffee is Fair Trade.



DEMAND-RELATED ISSUES

According to the International Coffee Organization, the United States is the largest coffee-consuming nation in the world, importing 20 million bags of coffee, or 26 percent of the world’s imports, in 1998.² It is estimated that just under half of the United States’ population, or about 114 million people, identify themselves as coffee drinkers (SCAA 1999). Total coffee sales over the past several years have been relatively constant, but sales of commercial ground and instant coffees have diminished while sales of specialty coffees have increased dramatically. “In short, consumers are not drinking more coffee, but they are just choosing to drink better coffee. Coffee consumers have been moving away from price-based purchasing to a purchasing trend that focuses on product variety and quality” (SCAA 1999).

2—DEMAND AND WILLINGNESS TO PAY FOR GREEN GOODS

A soon to be released, comprehensive survey of the North American specialty coffee industry (Giovannucci 2001) provides much needed information on retailers, roasters, wholesalers, distributors and importers’ views on “sustainable” coffee. Of the over 2000 respondent, 95 percent were aware of one or more types of “sustainable” coffees) (defined as organic, shade

¹ See <<http://www.sagar.gob.mx/sagar6.htm>>.

² International Coffee Organization. *Various Annual coffee reports.*

grown or fair trade coffee for the purposes of the survey). The report estimates that the total global market for “sustainable” coffees is US\$455 million, and that the North American market is between US\$152 and US\$188 million.

Looking ahead, industry specialists estimate that specialty coffee sales will grow by 20 to 25 percent per year, as specialty coffee is still in the early, rapid-growth stage of its product life cycle. In this stage, competition is not based on price but on product differentiation such as: country of origin, flavors, darkness of roast, type of packaging, organic, estate-grown, Fair Trade, shade-grown, etc. (Rice 1997). Excellent quality and taste is now the standard, rather than the exception.

The Giovannucci (2001) report found that in recent years, sales of “sustainable” coffees have grown very strongly between 5 and 10 percent per year. In fact, organic coffee sales have been growing at 20 percent a year, Fair Trade at 115 percent per year, and shade coffee with a strong although uncertain rate of growth. Of the respondents of the survey who believed that the sustainable coffee business is set to keep on growing, their projected average growth rate was of 26.5 percent over the next two years. This likely explains the fact that roughly 18 percent of respondents planned to enter the market for at least one of the categories of “sustainable” coffee.

In general, shade-grown coffee has suffered from industry divisions over standards, criteria and certification. Part of the problem is that different ecosystems make it challenging to develop universal standards, and there is constant debate over what shade-grown really means. Shade-grown coffee became a new issue in the middle of 1990 with the advent of the Rainforest Alliance’s shade criteria for Eco-OK “conservation coffee,” which includes criteria beyond those for just shade-grown. Subsequently, the Smithsonian Migratory Bird Center (SMBC) offered its own label for shade coffee with different criteria. Since that time, other similar, smaller labels have surfaced with limited market penetration.

In terms of price premiums, Giovannucci (2001) found that “sustainable” coffees command between US\$0.53 and US\$0.62 cents per pound more than regular coffee. Interestingly, roughly three-quarters of respondents believe the premia to be reasonable, and close to 90 percent expect these premia to continue. The profile of the shade-grown and organic coffee consumer resembles that of organic food consumer (CEC 1999a).

CONSUMER AWARENESS OF THE ENVIRONMENT AND “GREEN” GOODS

Concern for environment has been increasing (Dunlap 1991, Dunlap and Scarce 1991, Farhar 1994). The Center for a New American Dream reports that environmental awareness in North America is increasing. For instance, they found that 66 percent of Americans say they try to buy products that do less environmental damage. In addition, the number of consumers reading labels worldwide to “see if contents are environmentally safe” increased to 25 percent in 1997 compared to 19 percent in 1996. Not only are people aware, but they also seem ready to put this awareness into consumer action: Worcester (1999) found that 17 percent of Britons said they had boycotted a company’s product on ethical grounds and that 19 percent have chosen a product or service because of a companies ethical reputation. Also when asked about the importance of air pollution, waste disposal and the pollution of waters and beaches, over 90 percent said that they believed them to be serious.

As well the focus of business is expanding to include a wider notion of competitiveness which includes more than just profit. Within this broader notion, organizations are becoming more aware of linkages between sustainable design, employee retention and satisfaction, corporate

reputation, and corporate policy (Frankel and Leonard 2000). In addition, highly-recognized branded retailers have left companies and their massive investments in these brands vulnerable to activists wanting change (Center for A New American Dream 2000).

Ecolabeling programs offer an approach that can assist consumers in their purchasing decisions by providing them with information that includes the environmental attributes of a product. Such programs thus create a market-based approach to addressing environmental issues. However, the success of the market and of ecolabels depends on consumer awareness and acceptance of the label. Acceptance is in turn determined by (1) the credibility of the agency providing the label or certification, (2) consumers' understanding and perception of the link(s) between product choice and environmental impact, (3) an accurate and clearly understood meaning of the certification.

Some examples of ecolabels include the Canadian ecologo which was recognized by 20 percent of Canadians according to the Center for A New American Dream (2000). US success stories in ecolabeling include the Forest Stewardship Council certified wood (50 million hectares of forest certified), organic food and coffee which has become a \$6 billion market, the dolphin-safe tuna campaign, and Energy star (Center for A New American Dream 2000). The US EPA reports that 15 percent of US shoppers routinely incorporate environmental considerations into their individual purchasing decisions (Taylor 2000). Worldcatch (2000) reports that 70 percent of Americans surveyed said they 'would prefer to purchase seafood labeled to indicate that it came from an area which has not been overfished, even if the price was higher than unlabeled seafood.' A 1997 Roper Starch Worldwide 'Green Gauge' survey found that the number of consumers reading labels worldwide to "see if contents are environmentally safe" jumped from 19 percent in 1996 to 25 percent in 1997.³

However, it is still important that labels or engagement to buy sustainable goods increase the value of the products, provide competitive advantage, or provide significant PR opportunities (Center for A New American Dream 2000). Many believe biodiversity will supersede climate change as the environmental issue of concern in the coming years and the relationship between coffee and biodiversity worldwide could in that case be a liability or an opportunity, depending on industry procurement habits.

Market gurus, such as Paul Ray, talk about 40–50 million Americans dedicated to healthy and sustainable lifestyles (Taylor 2000) and the PR firm Porter Novelli characterizes 22 percent of Americans as having an "ecological orientation" toward purchasing (Taylor 2000). However, over half of the Americans surveyed said they did not know where to find sustainable products and that they would like more information and education on green goods and services.

WILLINGNESS TO PAY FOR "GREEN"

One method of considering consumer interest in goods is through estimating consumers' willingness to pay for environmentally preferable goods. A summary of such studies is provided below. Of course, willingness to pay (WTP) studies can be used as indicators of consumer interest in goods, but with one caveat. There are many reasons, including sampling bias, that reported willingness to pay for products overestimates actual purchases. An National Renewable Energy Laboratory (NREL) (Swezey and Bird 2000) review shows that less than 10 percent of those expressing willingness to pay will act on what they report in surveys. It also finds that customers are more likely to participate voluntarily if the program is effective in benefiting the

³ Communication with Living Out Loud Communications.

environment, is directly advantageous (e.g., not too expensive, gets returns or profits), and is simple. Thus, the following studies on WTP should be considered critically.

The CEC commissioned its own survey in 1999 to measure consumer interest in Mexican shade-grown coffee in North America (CEC 1999a). The results of this survey revealed that 22 percent of Americans were willing to pay \$1 per pound more for shade-grown coffee. Furthermore, six percent would pay \$2 more per pound. Forty-two percent of Canadians were willing to pay \$1 or \$2 more. In Mexico, 36 percent of those surveyed said they would pay \$1 more and nine percent said they would pay \$2 more. The same study found that, while the majority of consumers in North America were interested in purchasing Mexican shade-grown coffee, there is some reluctance among Americans (more so than for Canadians or Mexicans) to pay a price premium. The reason why was unclear. In retail outlets, organic coffee can cost the consumer an additional \$0.20 to \$2.00 per pound above other specialty coffees.

A report on the market for sustainable tourism in North America, commissioned by the CEC (2001) reports the results of a survey (US Travel Data Center 1992) relating to sustainable tourism. It found that US travellers were willing to spend, on average 8.5 percent more for services and products provided by environmentally responsible companies.

In 1993, the National Opinion Research Center found that 11 percent of the people polled were willing to pay higher prices to protect the environment. That number fell to nine percent in 1994. Forty-two percent in 1993 and 37 percent in 1994 of the respondents were “fairly willing” to pay higher prices to protect the environment (NREL 1999). In Ohio, two-third’s of survey respondents said they would be willing to pay \$5 for green power. In Sacramento, 40 percent of retail customers claim to be willing to pay \$10 per month for green power (PricewaterhouseCoopers 2000). An NREL (1999) literature review found that 40 to 70 percent of surveyed respondents in state and national surveys would pay a premium for green energy. A 1999 survey showed that this range increased to 52 to 95 percent. Of these, 75 percent were willing to pay at least \$5 per month, 38 percent willing to pay \$10, and 21 percent willing to pay at least \$15 per month for electricity from renewable sources. It was further found that customers view with favor, and remain loyal to, utilities that provide this choice. The survey conducted in 1993 by the Sacramento Municipal Utility District found that 70 percent of the general population was willing to pay a 1 to 10 percent premium to establish a clean energy program (Farhar 1999). Responding to a Public Service Company of Colorado survey in 1994, 82 percent of customers were willing to pay \$1 to \$4 per month to support the development of renewable energy; when put in place, the program drew in an average of \$2 per month which was collected from 10 percent of the population.

Blend, Van Ravenswaay (1999) tested the propensity of consumers to buy ecolabeled food compared to non-ecolabeled food. They conducted the study with apples because 90 percent of households do buy apples. They found that 72 percent of the respondents would buy ecolabelled apples the first time they see them and that even with a price premium of \$0.40, more than 40 percent of the respondents would still buy the ecolabeled apples. Females and higher income families are more likely to buy ecolabeled apples.

Leaman (1999) reports that 64 percent of British respondents said they would be willing to pay more for ‘environmentally-friendly’ products that normally cost £10. On average, this 64 percent said they were willing to pay £0.64 more.

EVIDENCE OF DEMAND FOR GREEN GOODS AND SERVICES

It is difficult to get a comprehensive review of polls and market studies because this information is often proprietary and thus not readily available to the public. A non-comprehensive review, focusing on the CEC's work program on green goods and services and on publicly available polls, is presented next.

John Leaman in the May 1999 issue of *Environmental Policy and Procedures* provides a great deal of information on British consumer and business perceptions and concerns about the environment and the demand for green goods and services they might represent. When asked about balancing environmental and economic considerations, 38 percent of the people approached reported that they either give more attention to environmental considerations than to economic ones, or that they believe in protecting the environment at all costs, regardless of economic considerations. Of interest to those who deal with organic agriculture, 33 percent of respondents said that 'crop spraying and insecticides' was one of the environmental issues of most concern to them. Among other things it reports: 92 percent of people said that environmental responsibility was either fairly or very important when choosing between products and services, where quality and price were equal. With respect to entrepreneurs and enterprises many believed that environmental concerns were important. In particular, when asked what benefits companies thought that they could gain from improved environmental performance 13 percent thought that helping the environment was a gain in itself, in addition, 19 percent thought that they would gain through better customer relations or image.

A 2000 questionnaire sent to tourism and hospitality organizations found that 18 percent of them thought that it was very important to their customers for them and their suppliers to operate in an environmentally and socially sensitive manner. This number increases to 40 percent when asked how important it will be to their customers in five years (International Institute of Tourism Studies 1999). Another important finding is that environment came only second to quality in location decisions for tourism visits.

In addition to surveys, there have been some studies of peoples' actual revealed preferences for green goods. For example, two percent of Pennsylvania and California customers have switched to green power providers (Swezey and Bird 2000). In a Massachusetts pilot program, 31 percent of residential customers chose the green power option and three percent of small commercial enterprises.

There is also evidence that demand for natural and organic foods is growing quite rapidly. Recent data received from Living Out Loud Communications, for example show that sales of coffee at 'Natural Product Super Markets' in the United States grew by 25 percent from 1999–2000. A jump from \$6.8 million to \$8.5 million. As well, organic coffee sales at mainstream retailers grew by 18 percent over the same period, from \$1.1 million to \$1.3 million.

It is clear that the North American market for organic agricultural products is experiencing significant growth—both in consumption in the United States and Canada and also in production across the region. Industry specialists project that over the next several years, sales will continue to rise by about 20 percent per year (Wisniewski 2000). In the United States, organic food sales are growing faster than both conventional food sales (2 percent per year) and natural food sales (8 percent per year).

PROCUREMENT

Individual consumers are an important aspect of increasing demand for green goods and services, but so are private and public institutions and companies. To give a sense of the importance of governments, consider the fact that US state and local governments have a combined purchasing power of more than \$1 trillion a year, while federal procurement is \$200 billion per year. With this in mind, the following is a list of different organizations and their intentioned and actual procurement of green goods and services.

Sustainable Coffee Procurement: A recent article in the *San Francisco Chronicle* (Collier 2001) reports that Safeway supermarkets and Denny's Restaurants are planning to introduce Fair Trade coffee in their restaurants. As well, Contreras (1995) reports that La Selva (an organization sponsoring a program for the cultivation and marketing of organic coffee) has managed to find a niche in the international coffee market. The organization sells its organic harvest to buyers in Holland, Germany, and the United States. Three North American companies—Aztec Harvests, Ben & Jerry's, and United Airlines—feature coffee grown by farmers participating in La Selva's program. La Selva has raised the taste and quality of its blend to a new standard that justifies its own appellation—wholesalers now refer to it as "Las Margaritas."

Green Energy Procurement: Corporations with renewable energy corporate policies include Patagonia, Toyota Motor Sales USA (these first two are green-e certified), Birkenstock Footprint Sandals, Fetzer Vineyards, Kinko's, New Belgium Brewing Company, Inc. Municipalities that have set minimum renewable portfolio standards include Chicago, Toronto, LA World Airports, Oakland, Santa Barbara, Santa Monica, and Seattle. Federal and state governments' initiatives include a 1999 Presidential Executive Order that encourages federal agencies to expand the use of renewable energy, an April 2000 directive that sets minimum green power purchasing goals for the Department of Energy, others with renewable energy requirement include Denver-area federal agencies, General Services Administration, Oak Ridge National Laboratory, the US Environmental Protection Agency, and the US Postal Service (other than the military, the largest federal energy user). Other organizations and institutions with renewable energy policies include Association of CA Water Agencies, Bay Area Episcopal Churches, and University of Colorado.

Environment Canada targets to buy 15–20 percent of its energy from renewable sources by 2010. Canadian Departments must also have an increased percentage of their new fleet using alternative fuels as per the Alternative Fuels Act of 1995 (OECD 2000). The City of Toronto has a minimum renewable energy portfolio as well.

Food procurement: A coalition of chefs and restaurants has helped protect swordfish and is now assessing other products. Heinz, Kellogg, General Mills and Unilever are moving into the organic sector. Larger groceries, such as Safeway, Kroger, and Giant, are now offering organic products and other health-conscious products.

US Federal Government procurement:

Executive Order 13101 reinforces federal government efforts to buy recycled products and further promotes the use of environmentally preferable products.

Executive Order 12845 requires federal agencies to purchase energy-efficient office equipment.

Executive Order 12873 provides guidance for federal agencies to purchase goods and services that pose fewer environmental burdens.

The Resource Conservation and Recovery Act, the National Energy Conservation Policy Act, the Clean Air Act and the Pollution Prevention Act all promote the use of environmentally sensitive products.

State and Local Government Green Procurement:

Massachusetts has successful procurement programs because it integrated environmental experts into the procurement office and includes the work of third-party labeling groups to develop criteria to make procurement decisions. The same approach has been adopted in Connecticut and is being considered in Iowa and Ohio. Santa Monica, CA, also has a progressive environmental ordinances and programs.

King County, WA, Environmental Purchasing Program [KCC 10.16, Executive Policy CON 7-1-2 (AEP)] was adopted by the King County Council in 1989. The policy directs County agencies to purchase products manufactured with recycled and environmentally preferable materials “whenever practicable.”

Canadian Procurement

As part of the Canadian Sustainable Development Strategy, each federal department must identify action that reduces its environmental impacts.

DEMAND-BUILDING ACTIVITIES (INVOLVING THE SUMMIT FOUNDATION)

There are also many initiatives to encourage demand in green goods and services. The following is a list of such initiatives.

Consumer’s Choice Council, Washington, DC

\$160,000 over two years (December 1999); \$40,000 over one year (August 2000)
To launch the Sustainable Coffee Initiative and to develop shared principles and criteria for shade-grown coffee in collaboration with key conservation organizations

National Fish and Wildlife Foundation, Washington, DC

\$60,000 over two years (December 2000)
For International Migratory Bird Day 2001 to feature shade-grown coffee as its primary theme

Seattle Audubon Society, Seattle, WA

\$50,000 over one year (May 2000)
For the project, “The Coffee Flyway: Linking Consumer Purchases to Conservation,” an effort to build consumer demand for shade-grown coffee in the Pacific Northwest

Smithsonian Migratory Bird Center, Washington, DC

\$25,000 over one year (June 1996)
For the Sustainable Coffee Congress and follow-on work

Stanford University, Palo Alto, CA

\$130,000 over two years (December 1999)
For the research project, “Coffee Pollination in Fragmented Tropical Landscapes: Conservation of an Important Ecosystem Service”

The Nature Conservancy, Arlington, VA

\$62,000 over one year (January 2001)

For baseline market research on the availability of and demand for sustainable coffees in the US marketplace, in collaboration with the Specialty Coffee Association of America, the Commission for Environmental Cooperation, the Consumers Choice Council and The World Bank

The Songbird Foundation, Burton, WA

\$10,000 over one year (August 1998); \$200,000 over two years (November 2000)

To build the institutional capacity of The Songbird Foundation and launch a national media campaign to encourage consumption of sustainable coffee.

RELIABLE SUPPLY INITIATIVES (FOUNDED BY THE SUMMIT FOUNDATION)

Audubon Naturalist Society, Chevy Chase, MD

\$5,000 over one year (May 2000)

To support the Crowder/Messersmith Conservation Fund, specifically to help CENICAFE and Pronatura Chiapas expand conservation coffee projects in collaboration with local communities.

Conservation International, Washington, DC

\$9,775 over six months. (December 1999)

A planning grant to develop a shade-grown coffee initiative in the western highlands of Guatemala

Institute for Agricultural and Trade Policy, Minneapolis, MN

\$50,000 over one year (April 1999)

For research and policy work on sustainable coffee certification in Mexico and Central America

Instituto Monteverde, Costa Rica

\$10,000 over one year (July 1999)

For the Finca La Bella shade-grown coffee project in Costa Rica

Smithsonian Migratory Bird Center, Washington, DC

\$211,875 over two years (December 1999)

To produce training materials and convene training seminars in the practice of field certification of shade-grown coffee in Latin America

FINANCING

Such mechanisms include the Ecologic Development Fund Cambridge, MA

\$50,000 over one year (July 1999); \$250,000 over two years (June 2000).

To support Ecologic Enterprise Ventures, a revolving loan fund to provide financing to business rooted in poor communities with a stake in protecting biodiverse habitats in Mexico and Central America, especially targeting shade-grown coffee producers

The CEC Current Initiatives for the Development of a Program for Sustainable Coffee Include:

- Helping interested stakeholders define criteria for shade-grown coffee, and comparing such criteria with other coffee criteria, including organic and fairly traded coffee
- Measuring consumer interest in shade-grown coffee
- Working with farmers and cooperatives to help satisfy the growing demand for shade-grown coffee
- Working with industry to understand its concerns in the purchasing of organic and shade-grown coffee
- Addressing issues of access to micro-financing for investment in organic and shade-grown coffee
- The creation of a searchable database⁴ of organic, shade-grown and fair trade coffee certification and labeling schemes
- Review of the literature on empirical links between biodiversity and coffee
- Brochure on green goods and services
- Satellite and photograph evidence of deforestation in Mexico
- Economic comparison between different coffee production systems

⁴ See <http://www.cec.org/pubs_info_resources/databases/index.cfm?varlan=english>.

3—RECENT CEC WORK ON SUSTAINABLE COFFEE

SYNOPSIS OF TOPICS COVERED AT THE CEC’S COFFEE INDUSTRY MEETING AT THE ALGONQUIN HOTEL, NEW YORK CITY, 9 FEBRUARY 2001

Because this was a closed meeting where we wanted to collect the industry’s honest opinions, this note does not detail the interactions that went on during the meeting. Instead, we report the overall consensus and dissension within the group about the various topics covered during the day. What follows is a list of the main themes and issues which were discussed.

1. Supply of shade-grown, organic, sustainable coffee

- In order for growers to be able to supply ‘sustainable’ coffee, the certification criteria have to be such that the growers can adhere to them, i.e., they must not be too stringent.
- With the volume needed to supply some of the larger importer/purchasers, the ability to buy coffee of an assured quality from fewer sources is needed—it is not possible for them to sample from each producer.

Quality

- It is recognized that, all else equal, shade coffee is a higher quality coffee. However, there still remain quality problems with Fair Trade coffee, as well as with organic and shade-grown coffee.
- Mexican coffee in particular is associated with a lower caliber of coffee, despite the fact that so much of it is shade-grown. Problems with Mexican coffee are associated, however, not with the coffee itself, but rather in the processing, mixing and milling of the coffee.

Financing

- A fund to pay for certification funded by importers and/or retailers and paid over time was suggested as a possible solution. A condition would be that this give access to the country’s certified crop and not only to one or two coop and one has to repay for two other coops.
- There is interest in contributing to a green fund that would provide micro-credit to small farmers, as well as incentives to produce sustainable coffee. For instance, receiving micro-finance at competitive but lower than coyote level interest rates, tied-in to farming practices that were sustainable and socially acceptable was considered.

2. Demand for shade-grown, organic, sustainable coffee

- Demand is heavily dependent upon consumer awareness.
- General consensus was that there exists a demand for ‘sustainable’ coffee abstracting from definitions of what sustainable coffee means.
- Many doubt results of willingness to pay studies. However, there are a large and growing number of bird watchers in the US may be among those willing to pay (23 percent of the population).
- There appears be a ‘pooling problem’ on the import side since containers are 275 bags. Much demand for these coffees comes from small retailers who often ask for 40 bags or so. This leaves the importer with a risky choice: import the whole container and hope to sell what has not been ordered, or refuse to import and lose the business. This problem is

further compounded by the huge number of certification schemes that are not, or are not perceived as being mutually recognized.

- Currently, the importing market has become quite conservative because losses due to short selling (\$30-100 million) have been suffered in the most recent period of extremely low coffee prices, and therefore the added risk of unreliable supply of 'sustainable' coffee further affects demand for it.

3. Consumer awareness

- Industry surveys show that Shade Grown and Fair Trade coffee have very low public recognition.
- The costs associated with increasing consumer awareness for these types of coffee is very high. It was estimated it would cost \$2 million to educate the public about a new brand such as shade or organic. Some suggested that this cost would be somewhat smaller if an awareness campaign was focussed at a particular audience.
- One attendee suggested that growth in the sales of sustainable coffee has required a great deal of 'push' on the side of the seller in the sense that a fair amount of awareness raising has been required to increase sustainable sales.
- However, several suggested that an element of consumer awareness was having 'a good story'. It is believed that the shade-grown coffee story is good (positive, hopeful, win-win, etc.).

4. Research

- There is a clear need for basic research to better document the relationships between biodiversity and the various systems of coffee plantations. In particular, serious commitment to funding agronomic questions surrounding ecologically sustainable coffee was believed to be necessary. It should not be assumed that all steps taken to protect the environment will result in a reduction of coffee production. A holistic research program involving agroforestry, agronomic, and basic ecological research could be conducted.
 - It was suggested that various companies or organizations would be interested in supporting further scientific research.
 - This research could include, among other things, the benefits of shade-grown farms providing animal corridors between parks and natural forests.
 - Some would like to see research conducted on the carbon sequestration potential of shade-grown vs. sun grown coffee.
 - An example of a farm in Indonesia which has converted to organic cultivation due to cost savings was mentioned. Further research of the costs and benefits of shade/organic production vs. sun production was thought to be useful, especially if it were used in the education of farmers.
- Questions were asked about what research is going on in the rest of the world about the correlation between biodiversity and coffee systems.

5. Policy (in general)

- Some suggested that a reduction in the volatility of coffee prices is extremely important for the industry as a whole and for sustainable coffee production in particular. One suggestion was a return to a quota system like that established under the ICO/ICA.
- It was suggested that coffee growers should be encouraged not to see coffee as their only source of income. Instead, they should be encouraged to diversify their crops to hedge against volatile international prices of coffee. In Peru, 28 percent of revenue comes from the coffee shade. It should also be noted that alternative crop programs (such as in Peru) are actually quite sensitive to the quantity/quality issue. The program in Peru has

concentrated on improving the Peruvian coffee (both from a taste and ecological perspective) and trying to move into a specialty market (as opposed to technification).

- USAID projects which have tried to substitute coca plantations with coffee do not help the oversupply of coffee.
- Biodiverse coffee plantations are needed to protect biodiversity since the forest has mostly gone and the remaining is disappearing quickly.

6. Policy (roles for the CEC)

- the CEC's money would be best spent on the roasters and retailers side than on the consumers' side.
- It was suggested that the CEC might be able to team up with funding/development organizations such as USAID in initiatives to help with the support of shade grown coffee.

7. Miscellaneous comments

- Inga is negatively correlated with bird biodiversity in coffee systems, while 40 percent canopy is positively correlated. The negative correlation between yields and percent of shade trees is positive but very weak. Also, few larger trees seem to be as beneficial as many smaller trees for biodiversity.
- The reality is that poor quality coffee does sell every year at a differential of up to \$0.40. The oligopsony in importers is a problem, in that sense since they import 80 percent of the coffee, which generally is low quality.

8. Certification

- There is a clear need for certification. This has to do with the integrity of the product (which is important), but also with where the line is drawn between technified and non-technified coffee. Drawing this line is seen as drawing a line in an ecological continuum. It is necessary that evidence support where the line is drawn and that we are all talking about the same thing. With certification, the consumer should not have to worry about whether the coffee really is ecologically friendly.
- There is a clear need to simplify and reduce the certification hurdles needed for organic and fair trade importation. For instance, though some certification schemes are mutually recognized, the end buyer may not be aware of the mutual recognition between certification schemes and as a result, may not want, for example coffee certified by a European organic certification scheme. In fact, there is at present enough confusion and complexity in the certification schemes to discourage some of the larger companies from using them. One attendee, however, felt that it was possible for some certification systems to coexist, e.g., Eco-OK and Organic (including bird-friendly).
- As well there is concern over the number of certification schemes. Some feel that there are too many schemes making it difficult to satisfy all interested consumers (retailers, or end consumers may recognize one certification scheme, yet not another)—providing coffee that is certified by all schemes is expensive and troublesome. Many believe that shade grown and organic certification need to be blended and/or done by the same agency to minimize transaction costs.
- At the same time, there is some concern about the amount of control that certain certifying agencies have due to monopoly in their field of certification, particularly in 'Fair Trade' certification. The fact that only small producers can be certified Fair Trade is actually unfair according to some.
- Some saw the most important certification issue and the biggest threat to environmental coffee not as the problem of too many certification schemes—but the lack of

certification. For example, self certification is dangerous. If consumers get used to shade grown etc. being a marketing slogan rather than a serious and verifiable statement about the coffee, then it will be difficult to reverse this.

- Information on many environmental aspects of sustainable coffee should be included and should count in certification schemes (e.g. whether the shade coffee was part of a wildlife corridor).
- Concern was addressed over the trade-off between the comprehensiveness of a given label and the ability for any particular coffee to adhere to all of the criteria. One participant suggested that if a label were to include organic with shade grown coffee that the supply of coffee that could satisfy organic criteria in addition to shade-grown criteria would reduce the supply of coffee by an order of magnitude, compared with coffee that could satisfy only shade-grown criteria. As a way out of this problem, a point system was suggested. It should also be pointed out, however, that the short term advantage of folding shade criteria into organic is that it uses an existing infrastructure.
- Concern was mentioned over the high cost to individual farmers of certification which seemed like a huge barrier to certification.
- Certification problems apply to coffee mills as well as to individual farmers, an issue which still needs to be resolved.

THE MEXICAN SUSTAINABLE COFFEE COUNCIL

The CEC, in conjunction with Pronatura, hosted a meeting in February 2001 in San Cristóbal de las Casas in Chiapas, Mexico. The purpose for the CEC's involvement in this meeting was to transmit the information gathered at the New York meeting with representatives of the North American coffee industry to the actual producers of coffee in Mexico. The information that was passed on to producers from the consumers in North America helped to catalyze the foundation of the Mexican Sustainable Coffee Council on 11 October 2001. The following are the principles upon which the Sustainable Coffee Council is based:

Management and conservation of natural resources

To work toward maintaining habitats for wildlife in coffee-growing areas, consequently conserving the biodiversity in these areas to assure they will still exist to be managed in the future.

Management and conservation of agro-ecosystem

To improve the productive system by integrating efficient practices that facilitate the establishment of a certain balance among the components of the agricultural system, achieving greater stability and improved production.

Control of coffee quality

To emphasize the need to definitively integrate the required measures in the entire productive and marketing process for improving or maintaining a competitive quality of coffee in the market.

Quality of life and social participation

To promote transparent, democratic structures in coffee growers' organizations, as well as self-management and equitable, integral development processes for families of growers and their communities.

LESSONS LEARNED FROM CEC WORK ON GREEN GOODS AND SERVICES

This subsection was prepared as a separate document whose purpose was to highlight some key lessons learned from ongoing CEC work in green goods and services. In identifying some general lessons, it was believed to be worth emphasizing that basic differences exist within and between different markets. For example, when approaching sustainable tourism, it was seen as important to note differences within the sector—from whale watching and mountain hiking to accommodation and transport which makes overall lessons about sustainable tourism opportunities difficult. Likewise, the international coffee market—which is replete with market distortions and failures – is characterized by important differences as to how specialty or gourmet coffee is produced and marketed. General lessons need to take account of these differences within and between market segments.

Understanding how a product or service performs in a market is in itself complex. Understanding how environmental products and services might perform in a market is doubly complex, and the lessons noted below highlight the key challenges that the CEC has identified thus far.

- (1) ENVIRONMENTAL ASSESSMENTS AND GREEN MARKETS: Efforts by public agencies like the CEC in supporting green markets is guided not by an interest in expanding the market share of a given category of products or services for its own sake. Rather, it is to help secure the environmental and biodiversity services that can be delivered with these goods and services. For that, a clear understanding is needed about the environmental effects, both of “mainstream” markets, as well as environmentally preferable markets. In each instance, market activity will have an environmental impact: the challenge is how to understand the magnitude of relative differences between mainstream and “green” market activity.

The methodology for examining green goods and services generally follows a sequential analysis which begins with gaining a better understanding of the ecological traits or characteristics embodied in the product, process or service. As noted below, while this requires a comparative analysis of similar products, processes or services, the CEC approach requires a high degree of confidence that the “green good or service” appreciably advances conservation goals. In the case of shade coffee, the CEC collaborated with the Smithsonian Migratory Bird Center, Mexican coffee producers, certifiers and others to identify the essential characteristics of “shade-grown coffee”. Most or all of these elements have been incorporated into the definitional criteria for third-party certification schemes.

One example of the CEC’s work in this area relates to deepening the understanding of the relationship between biodiversity of flora and fauna and shaded coffee systems. In 2001, the CEC has supported a number of assessment-related work, including working with the International Centre for Research in Agroforestry, which assessed the effects of shaded coffee systems on flora, birds, mammals, reptiles and amphibians, arthropods, other macrofauna and microbes. Related work includes working with Mexico’s National Institute of Geography to overlay high biodiversity

areas with coffee producing areas and forest margins to measure how much natural cover and forested lands, in the main coffee growing regions of Mexico, continue to be lost to agricultural expansion. The current historically lowest-ever coffee price is expected to worsen the situation.

- (2) **MEASURING CONSUMER INTEREST IN GREEN MARKETS:** Perhaps the most important determinant of any market involves tracking consumer preferences. Although other factors obviously drive green markets—including the role of regulations—consumer demand ultimately drives the viability of green markets. To help understand consumer preferences, the CEC continues to undertake market analysis. This includes the largest-ever survey of consumer interest in, and willingness to pay for shade-grown coffee (1999), which found that approximately 20 percent of consumers in the three North American countries expressed “very strong” interest in purchasing shade-grown coffee. More recent examples of this work include:
- (a) a market assessment of current and potential participants in sustainable tourism activities within North America, which includes tourist profile, motivation drivers and economic value (CEC 2001a, forthcoming);
 - (b) a market assessment of the *Chamaedorea* palm, showing trends in terms of volume and price fluctuation for Mexican palm exports;
 - (c) an assessment of the extent of interest in, and willingness to pay, for renewable electricity among large-scale electricity users in Mexico.

A key lesson of work thus far is that the extent of consumer interest in green markets is strongly linked to the awareness of consumers about the link between products or services they buy and their environmental “profile.” Often, people simply don’t see a link between the coffee they drink each day and the fate of forests or birds or farm communities in which coffee is grown. Recent market analysis suggests that awareness of shade-grown coffee is roughly seven percent among Canadian consumers, and 11 percent among residents of Washington state (US).

- (3) **UNDERSTANDING PRODUCER CHALLENGES:** Often, green goods and services involve smaller-scale producers. This holds true for instance for shade agricultural producers in Mexico, in which typical land-holdings are two hectares. Like other market segments, small and medium-size enterprises face a number of obstacles in competing in international markets. These generic obstacles include information failures, higher market entry and transaction costs, difficulties in accessing capital markets, and difficulty in tracking changes in external markets. A recent (2001b) study by the CEC on investment opportunities for small and medium-size companies in Mexico in pursuing market-based measures related to the climate agenda notes that the environmental agenda may create an additional hurdle for small-scale producers. To help identify producer and provider challenges, the CEC has convened a number of producer-stakeholder meetings, including with coffee farmers and cooperatives (Oaxaca, March 2000 and San Cristobal, April 2001); and with sustainable tourism operators and other stakeholders to develop a market-based approach to the conservation of shared species in the Baja-to-Bering conservation region (La Paz, March 2001). Among the problems identified in these and other meetings is the

difficulty small-scale producers have in responding to industry and consumer demands or expectations.

- (4) **COMMUNITY PARTNERSHIPS:** A guiding objective of the Commission's work has been the recognition of the pivotal role of community involvement and participatory initiatives that are grassroots based, inclusive and take account of social, cultural and environmental values. For several years, NAFEC has made important and ongoing contributions—through its grant-making initiatives as well as the networks that take shape from NAFEC work—to community-led initiatives in a range of green goods and services, from shade coffee and palm to small-scale tourism. NAFEC has also provided valuable support to communities in identifying capacity building needs, such as accounting skills or Internet access or transport needs. To help understand socioeconomic and other factors affecting changes in Mexico's coffee production, the CEC is working with Resources for the Future and Universidad del Mar (Oaxaca) in undertaking field surveys and workshops with farmers and communities (CEC 2001, forthcoming).
- (5) **INTERMEDIARIES:** Between producers and consumers are intermediaries: brokers, companies that provide value added in a commodity chain, retailers or other vendors that purchase from suppliers and sell to consumers. In the case of coffee, these intermediary actors include importers, roasters, wholesalers, and retailers (which include grocers as well as specialty coffee outlets). These intermediaries play an important economic and educational role in developing green goods and services markets. For instance, 85 percent of the \$85 billion coffee value-added in the U.S. and Canada goes to these intermediaries. Two meetings with coffee intermediaries, one in New York in February 2001 and in Montreal in June 2001, attempted to understand ways of connecting consumer demand from green products with the availability of high quality, shade-grown coffee. Intermediaries are themselves important actors in responding to industry and government green procurement policies. The CEC is also working with coffee producer association in responding to intermediary concern about disparate certification schemes and the creation of the Mexican Council for Sustainable Coffee.
- (6) **TRANSPARENCY AND MARKET INFORMATION TOOLS.** Among the market-based tools used to help consumers differentiate products and services in the marketplace are environmental labeling and certification schemes. Experience suggests that there is hardly an absence of such schemes. In fact, a CEC study (CEC 1999b) found that there are over 70 environmental labeling schemes in North America, with each scheme providing different information covering thousands of products and services. While differences in labeling schemes reflect a dynamic market at work, the multiplicity of schemes can pose barriers for a number of market actors. These barriers can include high transaction costs to producers, having to comply with different labeling criteria for different markets; uncertainty among consumers, possibly leading to what has been termed "labeling fatigue"; uncertainty among financiers looking to expand investments into green markets as to what labeled product or service to partner with; and uncertainty with public procurement officials for the same reason. An important lesson of the CEC's work in labeling and

certification is to ensure both that schemes are transparent and accessible, as well as lend themselves to environmental criteria comparability. Another lesson is that by comparing different schemes and practices, lessons can be arranged into “best practices” that help all stakeholders. In 2001, the CEC will release the final version of its “Compendia of Best Practices” for sustainable tourism. To help ensure the comparability and transparency of labeling and certification schemes, the CEC has established four online, searchable databases for green goods and services (found at <www.cec.org/databases>) covering:

- Coffee labeling schemes [covering over 1,000 criteria related to organic, fair trade and shade coffee criteria];
- Sustainable tourism, which includes over 50 sustainable tourism codes of conduct, guidelines, charters and certification schemes. This information covers 12 tourism-related activities (for example, whale or birdwatching), as well as global or region-specific codes and certification criteria;
- Environmental criteria related to office products, concentrating on energy-efficiency criteria covering 15 major product areas (for example, lighting, computers and fax machines); and full lifecycle product analysis;
- Renewable electricity, a database developed in support of the Article 13 work on Electricity and the Environment, which provides information on different definitions of renewable electricity in North America. It covers criteria in support of Renewable Portfolio Standards established or being proposed by different federal or sub-federal jurisdictions, as well as environmental marketing guidelines and private sector green certification schemes.

(7) FINANCING OF GREEN GOODS AND SERVICES: A more recent focus of the CEC’s work in this area relates to financing. As noted above, producers face a number of market and other barriers in competing in the environmental marketplace. This includes competing for working capital, needed to shift or expand production operations to meet the environmental expectations of consumers. The work of the CEC in financing continues to concentrate on identifying the financial opportunities of Mexico’s shade agriculture: that is, farm produce—including coffee as well as other farm-gate products like nuts, bananas, honey, palm and medicinal plants—grown at small farms under forest canopies. Among the initial lessons of the financing work is that while a great deal of work continues on sustainable coffee, information gaps remain about the financial aspects of shade coffee, how it compares with non-shade coffee and other farm produce, etc. The CEC is focusing on preparing financial analysis, providing information that an investor would need when deciding whether to put money into this area. This information includes calculating the total capital needs of shade agriculture in Mexico—between US\$20 to \$45 million per year, the return on equity and other information that debt, investment, venture capital and other financiers would need before putting money into this sector. In May 2001, the CEC had an informal meeting with 16 investors from North America, to review financial analysis thus far. That meeting confirmed the initial financial analysis of the CEC Secretariat that shade agriculture is a financially competitive product. The key lessons of this work relates to the legal mechanisms that need to be put in place to create a “Green Fund for Shade Farm Produce.” Among the issues that need to be addressed in relation to the fund include the extent to which governments and public agencies like the CEC can underwrite or provide a partial guarantee to investments in this area.

- (8) THE ROLE OF PUBLIC POLICY: For some time, the role of governments in supporting green markets has been recognized. These include:
- Using fiscal and other measures to correct environmental externalities and market failures. The OECD has recently noted that efforts can include setting differential tax rates, tax rebates, tax exemptions or other measures to provide incentives to green markets. An example of work underway in environment-related fiscal policies involves tax exemptions to promote renewable electricity.
 - Correcting public policy interventions that accelerate environmental degradation. An important focus of work involves reducing subsidies that are environmentally damaging. An example of subsidies related to the CEC's work involves subsidies directed to large-scale, monoculture, "technified" coffee production in Mexico. One immediate result of this subsidy support is that it makes competition on price more difficult for small-scale and non-subsidized shade producers.
 - A more active role of governments in supporting green markets, through green procurement policies. In May 2001, all OECD environment ministers—in *Environmental Strategy for the Next Decade*—reiterated their commitment to environmentally-sound procurement practices. A CEC study (1999b) of procurement practices suggests that significant opportunities exist for expanding green procurement. For example, the Canadian government spends approximately C\$11.6 billion on products and services each year, and supports green procurement policies, including the R-2000 Program, the C-2000 Program and Governments Incorporating Procurement Policies to Eliminate Refuse, to name a but a few. The United States government is the single largest purchaser of goods and services in the US economy, spending roughly US\$200 billion per year. In addition to various laws and regulations, the EPA's Environmentally Preferable Purchasing (EPP) Program has developed guidance for federal agencies on environmentally preferable purchasing, and complements the Comprehensive Procurement Guideline Program.
 - Lastly, lessons from the CEC's work in environmentally financing suggest that there is an important role for government in supporting green financing, especially when directed towards small and medium-size enterprises.

Such roles depend on the nature of the investment itself, but can include underwriting or partially securing external finance, or supporting capacity building or infrastructure support, which have long been identified as important challenges to micro-finance.

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