

COASTLINES

UC Santa Barbara Alumni Association

ONLINE
WINTER 2016



http://ucsbalum.com/Coastlines/2016/winter/webextra_davideleveland

HE GREW UP ON HIS GRANDFATHER’S FARM IN UPSTATE NEW YORK, where there was no question how food ended up on the plate. Four decades later, Dr. David Cleveland still maintains his close connection to small-scale farming communities. He has traveled the world doing research on sustainable agri-food systems created by indigenous peoples like Ghana’s Bawku, the Oaxaca in Mexico and the Zuni and Hopi of the American Southwest.

A professor at UC Santa Barbara’s environmental studies program, Cleveland wrote *Balancing on a Planet: The Future of Food and Agriculture* and was honored with the first-ever UCSB Sustainability Champions grant in 2009. He is currently working on his next book *Food Gardens for a Changing World* with his wife Daniela Soleri, a researcher at UCSB’s geography department.

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Coastlines: You gave a [talk recently](#) on the relationship between the climate and food systems. Why do you think this is such an important topic?

David Cleveland: The effect of our food system on climate change is something that is often overlooked. We focus on how climate is going to affect our food supply, but it's a circular thing because our food supply has a huge effect on climate. Most of what people tend to focus on, because it's so well-documented and publicized, is transportation and energy. People talk about fossil fuels and cars, which are important, but by thinking of it in those buckets, we forget how much the food system is responsible for.

Like the EPA, they break up the sources of greenhouse gas emission by transportation, energy, etc., and then they have agriculture. Their [recent data](#) on agriculture was 9 percent of greenhouse gas emissions, but that's just in-field production, and doesn't include emissions from machinery, and doesn't account for the rest of the food system – fertilizer and other inputs, and all the food processes after harvest. Altogether the food system accounts for at least one-third of all greenhouse gas emissions. So I think it's important to be aware of how much our food system affects the climate. But this is also an opportunity – first, because the food system has such a big impact, it also offers a huge opportunity to reduce greenhouse emissions, and second, it doesn't require a lot of new infrastructure, technology or research. It does require a change in diet.

And that can be pretty difficult behaviorally. But so are other ways of reducing emissions. It's pretty difficult to get people to change their transportation or adapt to the housing mandate in California, to build more houses next to transportation corridors – that requires a huge amount of political will and change and so on by people. So, maybe diet change isn't much more of a challenge than those kinds of things.

Coastlines: Might be more of an education, though.

DC: I do think it would require more education. Research is showing that most people are not aware of the effect of their food choices on the climate. The other cool thing about diet is not only that it is relatively low-cost to change in terms of technology and infrastructure and so on, but there's also huge extra benefits because our diet is making us sick right now.

And the foods that are climate-friendly are also good for our health and our communities.

C: Like what sort of food?

DC: Fruits and vegetables, whole grains are much better for us and for the planet. And the things that are relatively bad for our health, especially red meat and other animal products, highly processed foods, are not so good for our planet. The new Dietary Guidelines Advisory Committee report came out in February, which is the basis for the Dietary Guidelines for Americans which is revised every five years. It was the first of the dietary guidelines reports that linked environmental sustainability including climate with diet – that got a lot of pushback from a lot of places – especially the meat industry – they generated huge pushback, and the federal government backed off. Because our food system is basically one that is run for profit, not for health.

Unfortunately, while there is a correlation between food that is good for our planet and good for our bodies, there is also a correlation between food that is good for profit and bad for our bodies and our planet. So we have a conflict. Diseases like cancer and heart disease have increased dramatically, due to our lifestyle including our diet, which is a big piece of that.

C: Do you think so much cancer in the Boomer Generation is due to diet?

DC: Yes – I think so.

There is very strong evidence that some foods really increase our risk of disease. In the [research](#) we have been doing, we looked at the medical data for the relative risk of disease in terms of food. We found that for three diseases, there were very good data that connected these to food – colorectal cancer, coronary heart disease and type II diabetes.

We looked at the relative risk of adding a unit of red meat or other foods to the diet and what that would actually do in terms of increased disease prevalence. And we found that, with a relatively small change in the diet, you could reduce disease quite a bit and save billions of dollars in healthcare costs.

What's interesting is that the healthcare costs also generate greenhouse emissions. This is good news, because not only does changing your diet improve your health and reduce greenhouse emissions in the food system, it also reduces greenhouse gases in the health system. So you get a double benefit there.

C: Is eating insects going to save the environment? There are so many trends.

DC: One of the mistakes we tend to make in our culture is that protein means animals. Every living thing has protein in it. Lettuce has protein in it. Tomatoes have protein in them.

All food has protein in it. But protein from animal foods is much less efficient to produce and more climate unfriendly than protein from plants.

A [paper](#) published a few years ago by some people from Sweden. Compared the protein content of different foods. They found that producing a pound of plant protein is up to 17 times more energy efficient than producing a pound of beef protein, and emits up to 70 times less greenhouse gases.

So if we're talking about protein, we should be talking about plants. We don't need to have any animal protein – crickets, cows...nothing! We don't need it for nutrition, and much animal food is also unhealthy for people and our planet.

Where I lived in West Africa, for two years, their staple was sorghum, some millet. And they were pretty much vegetarians by necessity. They liked having meat when they could get it, but that didn't happen very often. They had cows and chickens but not in abundance. Maybe once every two to three weeks, they would have a little meat. But [sorghum and millet](#) are over 10 percent protein. The people there were very healthy, as long as they had enough food, that was their challenge, growing enough food.

Traditional diets tend to have adequate protein. Traditional Mesoamerican diets of beans and corn – tortillas and beans – have good amino acid complimentary. The amino acids that corn is low in, beans are high in – and vice versa. Those together gives you a good amino acid profile. Proteins are made of amino acids so you need to have the right ratio of those amino acids in order to have good bio-availability for protein production.

C: So we don't NEED meat.

DC: We don't need meat.

C: Five year olds rejoice everywhere. I mean, some of the things we do feed young kids like the chicken nuggets – those are...

DC: Those are disgusting, and this has been [documented](#). I'm vegan, so...(laughs)

C: For the short term, what can we do?

DC: On a policy level, like the Dietary Guidelines for Americans process, things are very politically embroiled right now. These guidelines will affect things like school lunch programs and so on, which will directly affect the sales of these companies – that’s difficult. But, individuals don’t have to get permission from Kellogs to not buy their sugary cereals. They don’t have to get permission from the National Cattleman’s Beef Association to not eat as much red meat. We have that power. Which is something we can exercise without anyone’s permission.

There are also a lot of groups advocating for education and change. The [medical and health groups](#) are really putting a lot of effort into fighting diet related diseases like diabetes, heart disease, stroke. Kids are getting type II diabetes while they’re just in elementary school – that was unheard of in the past generation.

C: How aware of this situation are UCSB students?

DC: A new classes I started to teach two years ago is called [Diet and Global Climate Change](#). Students really love it. Climate change is in the air – everyone is talking about it, it’s in the news all the time, it’s in our discussions – and young people are worried. It’s their future being threatened by our lifestyle and by an economic system that doesn’t want to change. This class shows them a big connection between what they do everyday, which is choose food and eat it, and climate change. It gives them a sense of power. That “Yeah, I can do something – I can do something directly, I can talk to my friends about it.” It gives them a hook into the problem and empowers them to change their diets and to advocate for change in society.

C: Any initiatives being led here at UCSB, by yourself and/or students?

DC: The Critical Issues in America program for 2015-16 is *Climate Futures: this Changes Everything!*, being led by Ken Hiltner and John Foran. We are planning some events that focus on the role of the food system in climate change.

There are several activities on campus that are part of the UCSB’s participation in the UC Global Food Initiative, focused on increasing food security, for example by offering workshops on food buying and preparation, and creating food gardens in the middle of campus.

I am working with a UC Global Food Initiative fellow, Genesis Gilroy, on research into UCSB and UC food policy, with a goal of stimulating discussion about how to increase the availability of, and access to, good food on campuses. This project will contribute directly to the core [goals of the Global Food Initiative](#), to “help individuals and communities access safe, affordable and nutritious food while sustaining our natural resources” and to “shape, impact and drive policy discussions”.

C: I notice that the statistics for hunger in this county are quite high.

DC: We think of Santa Barbara as a very wealthy place, but there are also a lot of very “un-wealthy” people here, like most of those who work in the fields and vineyards, the farmworkers. Twelve percent of the [population in this county](#) is food insecure, while 54 percent of adults are overweight or obese.

It’s really interesting because [we produce about ten times](#) the amount of fruit and vegetables that we eat – but we import about 95 percent of the fruit and vegetables that we eat, and we don’t eat the amount we should for our health, because we are in this food system that is totally globalized. “Wait a minute, most people say, This is insane.” And it seems insane. And that’s an example of some of the waste in our system, simply because of the economics of the global food system—short term profit which is out of touch with the health of people and the environment.

So localizing food is one of the things that both the campus and Santa Barbara County are working on. Local has come to represent the alternative to the global food system. Everything that is bad about the global food system –

whether it's greenhouse gas emission or malnutrition or unfair labor practices or horrible farmworker conditions...or whatever it is that people think is bad about the global food system, people think "Well, local food IS the answer."

C: Is it?

DC: It can be part of the answer. [It can also be a trap.](#)

C: Why?

DC: It can be a trap if you define local food spatially, but assume it will deliver a lot more than just physical proximity. The UC [sustainable food policy](#) states a maximum 500-mile limit, that's the goal of the UC campuses. Here at the UCSB [Residential Dining Services](#), defines local as within 250 miles, because we live in an area that where that is a realistic goal.

But the problem is, just having something local doesn't mean that it will have all the other attributes that some people will think of as LOCAL. It doesn't necessarily mean that. For example, local food can be produced with lots of synthetic fertilizers and pesticides that have large environmental costs, or sustainably, using organic methods that have much lower costs.

You can also have local food that is not socially sustainable, not supportive of social justice. An important issue is conditions for farm workers, which a [recent report from CAUSE](#) shows to be very poor in Santa Barbara County. And the increased popularity of local food can lead to gentrification. There are documented [cases](#) where local food like community gardens or food markets in low income communities have led to raised the rent, because they've increased the property values in the area, and low income families are forced out. There's all these that can happen with "local food" – that don't necessarily conform to what people's assumptions are that local food can be the alternative to all the bad things about global food. Many who want a better food system, including our Residential Dining, are doing a great job in asking the questions needed to get at those other attributes, but getting good answers is not easy.

[My research](#) has been on looking at what are the things you need to do to ensure that if you want to have local food, which is good in many ways, how do you make sure that it's getting you most of the other things that you want.

One of the other traps of local food is that it can be intentionally co-opted. If you look at Walmart or Safeway, if you look at their websites, they are talking about local food, local farmers, sustainability...but we know, for example, that [Walmart](#) is one of the worst companies in the world, in terms of how it treats employees and local communities. But they can appeal to the people who want to buy local food and make them feel good that they are supporting a system that is really unjust for the workers in the system. They're able to manipulate this idea of local food in a way that just perpetuates the bad food system.

We have to be really careful. We have to keep asking questions. I think that's one of the kind of take-home things from my book, [Balancing on a Planet](#)—we need to keep thinking of what the real goal is, and how can we know if we are moving in that direction? We all need to have shortcuts. We can't go to the store and go through a list of a hundred things – you can't do that. Even if you DID have the time to do that, the information isn't there.

You would spend your whole life doing research, just to buy an apple. So that means we have to choose the key questions to ask about our food.

We have a farmers market on campus. One of the farms that comes there is from Buellton –. You can talk to the farmer selling at the market about the food they are growing, how they grow it – and it's a direct way to figure out if this is the system you want to be supporting. That's one great thing about local food – it allows you to have that face-to-face contact. It shortens that distance. So that's really great.

C: So what I'm feeling here is that it's going to have to be a consumer-driven type of change...

DC: It's going to have to be both – a lot of change seems to be a result of a combination of grassroots and support from the top. With only one or the other it is more problematic. The United Farm Workers organized from the bottom for better working conditions, and you had supporters like Bobby Kennedy supporting the farm workers – you had that top-down. You had [Cesar Chavez](#) -- and the Latino and Filipino farm workers who are a big part of that –. And so you had this tremendous groundswell but you also had people on the top who were sympathetic and supportive.

It often has to be both things. But grassroots movements can be important in forcing people at the top to decide to join in, only if its because they begin to see that it is in their own interest.

C: So what are the prospects for change actually happening?

One of the things I talk about in my book is this disconnect we have. Somehow we have been disconnected from our food. But things are improving. People are reconnecting food to its purpose. For me the purpose of food is to nourish life.

Then we have to ask, well – why are we alive? What's the purpose of being alive? How do we make a purpose for our life? I think one of the obvious answers to a lot of people is to increase happiness, for yourself and for other people. That's the purpose of life.

So isn't that the purpose of food?

If the purpose of food is to keep people alive, the purpose of being alive is to create happiness – then the purpose of food is to create happiness. We've totally aborted that, in that the purpose of food is to make money. If you look at our food system...these companies, by far their dominant mission is to make money. If making money makes people sick, they don't care.

We have to recapture the meaning of food. We have to recapture it – that food should be for happiness.

Farmers in the Global South are told, just move to the city. That's means giving up a whole way of life. We have friends in Oaxaca, Mexico, their families have been there for thousands of years. My wife Daniela Soleri has been working in Oaxaca since the mid-nineties. You see these families, they have four sons and three daughters, and out of those seven kids, six are living permanently in the United States. And you see these homes, you have the grandparents there, and grandchildren visiting can't speak the same language as their grandparents – and all that hundreds of years of language and tradition and food culture is gone in a moment of time. There's so much that is valuable that is being lost.

We could be figuring out how to support those communities. They can produce food in a very efficient way if they have the resources. Small-scale farmers can be very efficient. And they also provide that diversity of food, diversity of culture – we need that diversity. We don't know what the future holds – we need all the options we can get. But the trend of modernization is to wipe it all away, and replace it with this bland, unhealthy, grocery-store food and mass culture. And all that rich diversity gets lost – it's really sad. It's important to remember that many of the farmworkers growing our local food in Santa Barbara and the rest of California have left their farms in Mexico and other places, which means undermining the traditional, local food systems there.

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1.1. A Conversation About Food, Part 2

An Interview with UCSB professor, human ecologist and author David Cleveland

Editor's Note: This is the final installment of our two-part interview series with Dr. David Cleveland.

Coastlines: Tell us about your next book.

David Cleveland: *Food Gardens for a Changing World* is a book Daniela and I are finishing now. It's inspired by a book we wrote over 20 years ago, based on our work around the world. That book, [Food from Dryland Gardens](#), was written mainly for extension agents and project people in the Third World, in the global South.

C: Is it for the same audience?

DC: The main audience for the new book is people in the Western United States. We set "food gardens" in the context of the huge trends that we are experiencing – long-term trends like climate change, increasing economic inequity in our society, the increasing scarcity of resources like water. We can't adapt to these longer term trends using just the regular adjustments that we use for changes like the seasons, because these are major new things that we have to deal with. So we're writing this for an audience in the Western United States – home gardeners, community gardeners, to help them figure out how they can best reach whatever goals they have for their gardens, by understanding the basic scientific concepts.

One of the examples I like to give is if you have a community garden and you have a shortage of water, how do you organize that? One of our principles is that human beings can be both nasty and nice – we have the capability of pro-social, cooperative behavior or really selfish, anti-social behavior. So if you have limited water supply as we have now in California – all over the West – how do you organize access to that water? Do you say first come, first served? That whoever gets here, you just water your garden, whatever – that's easy, you don't have to organize it. That kind of structure brings out the worst in people.

How about you get together and you say "let's plan this, let's figure out what would be fair for everyone in the garden – let's be FAIR" – and let's also think about other people in this watershed who need water, and how people in the FUTURE will need water." That's a different way of organizing the same problem, if your goal is a more cooperative community, then that's the way you should be organizing it, versus the other way.

Another example is greenhouse gas emissions. It's a big thing – like now in Santa Barbara County, and a lot of other places, is pushing composting. [CalRecycle](#) has a big push to keep organics out of landfills. Well, a lot of people gardening are well aware of this – and there's a lot of attention to how we need to reduce our carbon footprint and all that.

The [County of Santa Barbara](#) is subsidizing compost bins and workshops – but actually [research](#) shows that if you don't compost the right way at home, you could actually be increasing greenhouse gas emissions from your compost pile. It might be better to send that compost to a landfill or an anaerobic composting facility. Even if it takes fossil fuel to get it there -- and then if you want to use the compost, you can import it back to your garden. But that's another example of how if one of the goals of your garden is to minimize greenhouse gas emissions while also optimizing soil health, you have to not just say "oh composting is the best thing."

You have to use scientific principles and investigate the options. Am I going to have the time to make sure I don't have anaerobic conditions developing in my home compost that's going to release methane? And then I have to investigate – maybe get together with other community gardeners to find out what are the organic waste management processes in our community. In Santa Barbara, we send it to Tajiguas Landfill where they have a system to capture

the methane given off, burn it to create electrical energy, but they're working on a project for anaerobic digestion to keep organic waste out of landfills and also generate energy. So, if one of the goals of gardening is to minimize greenhouse gas emission, that could involve a community effort to find out what are our community resources are, and bring pressure to improve those, versus "we can all do it in our own garden."

C: We do have all these catchwords and banner phrases, right? Reduce your carbon footprint. Composting...

DC: Right – but what does it all MEAN? Just like local food, which we talked about last time. Local food can be produced by workers who suffer unjust working conditions and miserable pay rates. CAUSE, the group based out in Ventura County, it's a community action and social justice group, are really working to improve conditions for poor people. They issued recent reports on farm workers in [Santa Barbara County](#) and in Ventura County – and it's pretty miserable. How do you organize a food system that is socially just for every body?

The facts are as obvious as the Sun and the Moon, that the United States is a country built on [slavery](#) and [genocide](#) -- their legacies affect us today. That's how our country came into being. It's not to say that a lot of countries don't have this history. This is unfortunately a human pattern. But to deny that history and create a myth makes it harder to deal with its effects which are still with us—we need to acknowledge and confront that history in order to move forward.

I was on the Agri Futures Alliance, this group in Santa Barbara County and other counties where the basic idea was to conserve agriculture in the County and bring together people representing the whole food system—large and small farmers, nutritionists, environmentalists ...and it ended up being dominated by the interests of the large commercial farmers. For example, they kept talking about having better farm worker housing, but the goal was a stable workforce. And I said if we are going to talk at all about farm worker housing, we need have the farm workers involved. And they didn't want to go there.

The reason so many people have migrated here from the south is because of the foreign policies of the United States, and the domestic policies of their own governments—they have made it so bad for the people there that they're leaving. Because we support dictators and neoliberal economic policies that deprive the farmers who are the poorest from the opportunity to make a good living on their farms. What can they do? That's the big picture. But the people in the agriculture establishment don't want to hear that.

And so that gets back to the garden book – one of the big problems of our food system is the incredible inequity perpetrated by these large food companies which not only control food, but most of the information about food -- as you have seen the World Health Organization [IARC finding](#) about the carcinogenicity of red and processed meat.

C: What did you think about the news stories?

DC: The work we did modeling those kinds of diets - we're not surprised at all. Those kinds of data have been around for quite a while -- especially for processed meat. It's pretty clear that processed meat consumption is directly related to cancer, colorectal cancer and other kinds of cancer. It's very hard to establish cause and effect. But there is so much evidence now that it's just overwhelming.

For red meat, it's not as clear. The WHO IARC rated it as "probably carcinogenic", and processed meat as "carcinogenic" – but I think with red meat, as with dairy products, there is evidence that they contribute to disease.

C: Your own personal choice – you are a vegan. Why did you become vegan?

DC: I became a vegan about seven years ago. I've been vegetarian since my twenties. But I became vegan because eating eggs and dairy doesn't adequately address the range of ethical, environmental and health problems in our food system.

The number I have seen is that 20 percent of the beef in this country is from dairy cattle. I haven't been able to track down the data it's based on – this is something that the Beef Association actually published. But the USDA doesn't track this. I think it possible to go into the USDA database and try to estimate this number. My colleagues in Europe, they say in some European countries over 50 percent of the beef is from dairy cattle. So in other words, the dairy cattle are also part of the meat industry. So eating dairy products is not only supporting the often bad conditions for these animals – but then they're slaughtered, and all of the male calves also become meat.

And then there's increased evidence that eating dairy isn't good for your health. And I feel better since I stopped eating dairy and eggs. I feel great. I feel good.

Of course, environmentally too. In California, the [dairy industry](#) has HUGE environmental impact – the manure ponds, the forage crops and grazing land...for the same reasons I became vegetarian, I became vegan. Just another step.

C: For us there might be some struggles culturally to give up, say, fish...

DC: But that's the key, I think, is not presenting these choices as black and white. There are some who say "well if you're a real environmentalist, then you have to be vegan." But that just turns people off. That's a turn off. There is no "pure" diet without ethical, environmental or health issues. Everything is compromise at some level. There are tradeoffs everywhere.

But the direction is pretty clear—for example, eating less animal foods, especially red and processed meat, eating less highly processed foods, eating less resource intensive foods, eating less food grown under conditions that are unfair for farmworkers or cruel for animals. And replacing these with more fresh fruits and vegetables, whole grains, and foods grown under conditions that are more socially just and humane. But we always have to keep asking questions, to try to check the reality under the surface of labels and advertising.

C: Well, that brings us to these dietary choices – like what can people do?

DC: We say we "harvest" our animals, right? Harvest.

One of my first memories of food – I grew up when I was young on a farm in upstate New York. It wasn't much of a farm, it was kinda going down – my grandfather had died and my uncle was running it. But they still grew crops and had some dairy and chickens and pigs – and I remember when they would kill a pig, my uncle would walk down to the pig pen with his rifle. And I remember the pigs would start squealing – they knew what was going to happen. I don't know if they saw the rifle or the way he walked – or what it was...but you could hear them. These shrieks of terror. And then you'd hear the gunshot. And then you'd hear a whole bunch of screams, and then silence.

And then I remember this pig would be laid out on the dining room table and would be dressed. I remember my grandmother would be making sausage and other stuff. And I enjoyed eating it. It tasted good. But there was something that got inside me about it – that there was a conflict here. And that was the beginning of it.

C: Those type of choices – making a conscious effort to not eat meat or to not patronize certain businesses. But what should people remember if they make these choices?

DC: There's a desire on the part of the food establishment side to genericize food. They want people to come into the store to see a product, want to eat it, want to BUY it and take it home. And that's why they oppose labeling genetically-engineered food. That's why the [sugar industry](#) is fighting the [FDA proposal](#) that the labels carry information about added sugar in the food –they don't want you to KNOW what you are eating, much less the background of the food you are eating and what negative effects it can have on you and the rest of the world. They want people to just emotionally or by habit or by price, choose something and eat it. They are manipulating, they're

advertising, they're packaging salt and fat and sugar in the food to get people to do just that – they're trying to make people make dumb choices.

But people are demanding more information, which is encouraging. We want to know all about our food – we want to know where it comes from, who grew it, how it was grown, what effect it had on the environment, etc. – and I think the thing people can do is to participate in that movement by asking simple questions. Imagining, while they look at food -- how did that get there? How did that frozen broccoli get to be in that freezer in that grocery? Where did that come from? What helped it to get there, what resources were used, what pollution created – all that refrigeration and all that – how did it get there? And who were all the people involved in that [food chain](#).

And once people begin to interrogate their food, that will lead to a whole bunch of other things. Not only where it came from, but where is it going to go into your body, and what's it going to do to your body once you eat it. And what happens to the food waste, some of which can't be avoided.

We've been discouraged, discouraged, discouraged – from thinking about the social and environmental impacts of how the food gets to us, and of the health impacts to us, once we eat it. The thing is, to keep asking those questions and to make small changes. Not to think “oh I have to totally change my diet or do nothing!”

But cultures can change incredibly fast. Some times for the better, and some times for the worse. My wife and I worked for many years in Oaxaca, Mexico. This is the only airport I've been in anywhere, where you walk into a restaurant, and along the whole left side is a WALL of fruit – mangoes, guavas, papayas, you name it – just stacked up. And there's a licuado-type of thing – and you pick your fruit, and they're constantly making these licuados for everyone. Their traditional diet is really good – a lot of fresh fruits, a lot of fresh vegetables, and a lot of tortillas and beans.

C: So you can have fruit on a stick instead of that ice cream...

DC: But what happens when they leave for the big cities and the US, the diets go poof! One of the biggest problems for migrants from Mexico and Central America is obesity and diabetes. So many people are leaving the Mexican countryside and going to the big metropolitan areas like Mexico City. There's a lot of sugar, a lot of soda in Mexico, it's is pretty incredible. And Mexico has a high obesity rate. The government courageously implemented a soda tax which has resulted in a [decline in soda consumption](#), but the industry is fighting back and the tax has been lowered.

I remember my wife and I did a little project outside of Mexico City, in the slums there. These people are just basically squatting on the land, under cardboard and tin. They had all these little containers of shampoo bottles and other things full of things growing. The soil there is really bad because the old lake is really salty – so they bring soil back from somewhere else in all these containers and have herbs growing out of them. So you see this really impoverished community – and this brand new, giant, red Coca Cola truck – I took pictures of it - loaded with Coca Cola for the tiendas.

I mentioned in [Balancing on a Planet](#) how the U.S. government equates increased consumption of unhealthy foods with a healthy food economy. The USDA has stated that increased soda consumption is a sign that people are purchasing “higher value” foods that reflects the “health” of local food industries.

So, the health of the economy is diametrically opposed to the health of the people. But the USDA is often supporting the health of the economy in opposition to the health of the people.

C: You introduced this idea in our last interview about re-equating food with love – with happiness.

DC: This commodification of everything – healthcare, medicines...it's all commodified, the [scandal](#) when a venture capitalist bought a pharmaceutical company and raised the price of a medication used to treat serious illnesses like AIDS, fifty times. People were outraged, but it was defended as a sensible business decision.

To me, it's a misdirection because having lots of money, material possessions, those aren't the kind of things that make us happy. Those aren't the kind of things that fulfill us. What really fulfills us is love and being with people – and helping them and feeling that sense of social connectedness. That's what makes us happy. That's what food can do. Food is a connector – it can connect people who grow it, connects people who eat it. It connects people who share food.

Food is a social lubricant and it's also something that we need to be healthy. And it becomes commodified and this bizarre situation develops that we just talked about – where you have the food industry that is promoting food that is making people sick.

I ask my class, “what is food for?” And they eventually get down to it. My students say “well food is for keeping people alive.” So I ask, why are we alive?

Am I alive to make money? I want to be happy. That's what the Buddhists say – everyone wants to be happy, everyone suffers...so we should help each other be more happy and suffer less. And that just seems such a simple formula for making the world a better place to live.

And food is a huge part of that.

In the research I do, and the book I told you about that we are writing now, we ask how can we use science to serve THOSE goals -- instead of science used in a way that serves selfish goals, corporate goals.

How can science...our research – whether it's natural science or humanities or whatever area – how can that serve the public if in fact it is also serving some kind of private, vested, selfish interest? I think that's an issue which society hasn't adequately addressed.

I think at the level that I've seen it, the establishment way of addressing the health and ethical and social and environmental problems with our food system is often trying to be a large tent where everyone can promote this and that – and we're all “one big family.” Is that possible? Is the world really big enough that we can have all of that happening at the same time – or are there limits to natural resources and limits to social resources? Are there approaches that are mutually exclusive? I think there are limits, and all approaches are not compatible. Choosing what kind of food system we want means compromising, but it also means everything can't coexist. Choosing one thing, like supporting food for health, means not giving public subsidies to foods that make people sick. We have to make hard decisions, but if we want to move to a food systems that is more socially just, healthier, and environmentally friendly, the direction of those decisions seems clear.