2014 GREENDEX – SUMMARY OF FOOD RESULTS AND ANALYSIS OF BEHAVIOR CHANGE

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INTRODUCTION

This is the fifth year National Geographic has partnered with GlobeScan (www.GlobeScan.com) to provide regular quantitative measures of consumer behavior and to promote sustainable consumption. The central component of this research initiative is the creation of a composite index of environmentally sustainable consumption called the Greendex, to add to our collective understanding of the barriers and opportunities that people face in becoming more sustainable as consumers.

Overall, we have found that the pace and scale of uptake of sustainable consumption have remained too little over the past six years. Yet we have positive findings to point to. Compared with 2008, consumer habits have improved at least somewhat in nearly all countries surveyed. Particularly encouraging findings are in the food category—something that all consumers can personally relate to. Food habits have improved from 2012 in 11 countries as more people embrace the local and organic food movements. Changes in consumer behavior indeed seem underway in this area, and as part of our 2014 study we investigate why, and ask how the social and economic dynamics at play here can be fostered to affect other types of consumption.

In this report we highlight the results of this substantial exploration into the area of behavior and attitudes around food, and the identification of what specifically drives behavior change in this area for different segments of consumers and for consumers in different geographies.

This study shows that for most consumers food is an essential part of their culture, and they care deeply about the food they eat and about how their food is produced. However, many also feel alienated from the food system and do not feel empowered to affect the way food is produced or influence what type of food is available to them when shopping. Many consumers are informed about the benefits of buying locally produced or organic food, and they are concerned about genetically modified food. Consumers also agree that we need to change the way we produce and consume our food, in order to ensure we can feed a growing population. Most consumers agree with scientists’ claims that the way we produce and consume food today is negatively affecting the environment and our health.

So, it appears that the conditions required for widespread changes in food consumption patterns are in place. How, then, can society catalyze those changes?

In exploring consumers’ intentions to change their food consumption behavior, results show that a majority of consumers say they intend to change their own food habits for environmental reasons. Globally, consumers also tend to say that they will change their consumption of specific types of food after learning about their respective environmental impacts, suggesting that this type of information may have an effect on people’s intention to consume more sustainably.

Consumers across the 18 countries say that they plan to eat more grains and beans, and more locally produced, organic, and self-grown food after learning about the less detrimental impact of these types of food. They also claim that they will consume significantly less beef and less convenient or packaged food, and also consume less bottled water, chicken, and pork.
When looking at the role of friends and peers in encouraging more sustainable food habits, the study finds that few consumers are strongly encouraged by their friends/peers in this area, and that few consumers themselves strongly encourage others to make more environmentally friendly food choices, although those who are encouraged often comply.

When asked to pick two influences that could most cause them to make their food consumption choices more environmentally friendly, consumers tend to choose doctors or other healthcare practitioners most frequently. Scientists and environmental organizations are also relatively influential. These results suggest that consumers may be more receptive to information about how to eat in a more environmentally responsible way if this information is linked to their own health and provided by sources with medical or scientific credentials.

To better understand how consumers may be able to change their food habits to become more sustainable, we have developed a global consumer typology. Based on advanced statistical modelling, we have identified several types of consumers who differ from each other in terms of their intent and capacity to improve their current food habits. Understanding who these consumers are and what motivates them can help society achieve the changes that scientists say are necessary.

To further understand the demographic and psychosocial factors that affect consumers’ decision making processes in the food category, the study also uses statistical analysis to identify a set of positive and negative drivers that affect consumers’ potential to change their food consumption habits. Positive drivers increase the likelihood that a respondent will change his or her consumption behavior to mitigate her or his environmental footprint, while negative drivers represent obstacles to consumer behavior change. This analysis also identifies the overall likelihood that consumers will change their food consumption behavior and compares respondents’ likelihood to change across countries, demographically, and between segments. Our findings are reported below.

CONSUMER PERSPECTIVES ON FOOD

- Most consumers believe that food is an essential part of their culture.
- A growing majority of consumers think that purchasing locally produced food boosts the local economy and half of consumers say they are willing to pay more for locally or organically produced foods.
- More than four in ten consumers find it difficult to distinguish locally produced food from available alternatives.
- Many consumers, especially those who eat meat more regularly than others, do not think that meat consumption is environmentally detrimental.
- Fewer than half of consumers believe they have the power to influence the type of food available in local grocery stores, and a majority feel unable to affect the way their food is produced.

Most consumers care deeply about the food they eat and about how their food is produced. Majorities of consumers in all countries surveyed, except Sweden, feel that food is an essential part of their culture, especially Indians. Almost half of consumers say they prefer to eat the food and recipes they grew up with, rather than the latest trends in food. The French are more likely than others to agree that this is the case.
Most consumers are also becoming more thoughtful about where their food comes from. The vast majority of consumers agree that buying locally produced foods helps the local economy, and consumers in several countries—including China, Germany, India, South Korea, Spain and Sweden—have become more likely to agree. Almost half of consumers across the 18 countries claim to be concerned about where their food is produced, although British and American consumers are less likely than others to worry about the origin of the foods they eat. However, more than four in ten consumers find it difficult to distinguish locally produced foods from others. Consumers are also relatively well informed about sustainable production of food; a majority of consumers across the 18 countries surveyed believe that they know what “organic” means when referring to food. Sweden has the lowest proportion of consumers who report being confused about the term, while South Korea and China have the greatest; those in South Korea and India have become more likely to say they are confused about what “organic” means since 2012. Consumers in countries where people are more familiar with the concept of “organic” food tend to be more likely to consume such food frequently, and those familiar with the term are also more likely to say they intend to consume organic food frequently in the future. Latin Americans, South Africans and Russians are all relatively familiar with the notion of “organic” food and are also among the most likely to say they intend to consume such food frequently in the future.

However, most consumers still do not recognize the environmental footprint of meat production, although they are increasingly becoming aware of the issue. Across the 18 countries surveyed, there are more consumers who do not believe that eating meat is bad for the environment than who think it is. French, Hungarian, Indian, South Korean, and Swedish consumers have become more likely to say that eating meat is bad for the environment in recent years, however. Indians are the most likely to agree that eating meat is not environmentally sustainable (consumers in this country are...
significantly more likely to be vegetarians), while majorities of North Americans, along with Argentineans, Australians, Russians, South Africans, and Spanish do not think that eating meat is bad for the environment. Consumers in these countries also eat beef and chicken relatively frequently.

Consumers appear to be coming to judgment about GMOs as they feel strongly about their presence in their food. Consumers across the 18 countries surveyed tend to oppose the use of this technology, even when told that GMOs can help farmers produce more food. Russians and Europeans feel particularly strongly against GMOs in their food, whereas Indians, followed by the British, are the most likely to tolerate their presence.

Globally, consumers also do not feel particularly empowered to influence the food system. Fewer than half of consumers in the 18 countries surveyed, around four in ten, believe they have the power to influence the type of food available to them where they shop. Indians are most likely to agree that they can influence the types of food available where they shop, and Indians, Chinese, and Swedes have become more likely to agree. Consumers also tend to believe that they are powerless to change the way that their food is produced, with Eastern Europeans the most likely to agree.

Overall, the research finds that considerable numbers of consumers feel alienated from the food system. Perhaps as a result, we detect a countervailing trend pointing toward increasingly aware and thoughtful consumers embracing the local and organic food movements. For example, half of global consumers now agree that it is worth paying more for locally or organically produced foods, and they are increasingly likely to feel this way.

Consumers are still not particularly likely to feel well-informed about the quality, safety, and origin of the food they eat. Indians and Chinese consumers, however, have become more likely to say they are well-informed than they were two years ago and Indians feel considerably more well-informed than consumers in the other countries surveyed. This could be related to increasing concerns about food safety in these two countries.
PERCEIVED NEED TO CHANGE PRODUCTION/CONSUMPTION OF FOOD

• Nearly two-thirds of consumers think that large changes are needed in the way food is produced and consumed in order to feed a growing global population, while only 2% believe that no changes are required.

• In the Japanese, Russian and American markets, fewer than half of consumers believe that large or very large changes are necessary, and this belief is coupled with less sustainable food consumption habits compared to those in other countries.

• Indian consumers demonstrate the most sustainable food consumption habits, particularly due to their avoidance of meat, and they are more likely than average to think that the food system needs to change.

Globally, a majority of consumers agree that we need significant change in food production and consumption systems. On average, more than six in ten consumers across the 18 countries surveyed believe that we need to make large or very large changes in how we produce and consume our food in order to feed a growing global population. In Japan, South Korea, Russia, and USA, however, fewer than half of consumers believe that large or very large changes are necessary.

A comparison with their Greendex food scores (a measure of environmental footprint where a higher number is more sustainable) reveals that consumers in these markets also tend to have relatively less sustainable food consumption habits compared to those in other markets, with the exception of South Koreans (see matrix above).
Latin Americans are more emphatic in their belief that changes are needed in how we produce and consume food; yet the impact of their food consumption habits differs little from that of consumers in Japan, Russia and the USA, and their food index scores are below (worse than) the average of all countries surveyed. Indians stand out as displaying the most sustainable food consumption habits due to their avoidance of meat and high Greendex scores, and above average sense that the food system needs to change.

TRUST IN SCIENCE

- Consumers in all of the 18 countries surveyed tend to trust scientific claims that the way we produce and consume food today can have a negative impact on the environment, and one’s health.
- Consumers are even more likely to trust science that finds that human activity and consumption patterns are changing the world’s climate. American consumers are the least trusting.

Lack of trust in the validity of scientific claims, for example those related to climate change, has been shown to hinder consumers’ attempts to engage in sustainable consumption. As such, we assessed the degree to which respondents trust the information released by scientists about the impact of food production and consumption on the environment. Globally, consumers tend to be trusting of scientists’ claims about food and climate change. Consumers in all of the 18 countries surveyed tend to trust scientific claims that the way we produce and consume food today can have a negative impact on the environment, with six in ten agreeing that they are trusting. American and Japanese consumers, however, have less trust in these claims. These are the only countries in which fewer than half of consumers agree, but much smaller proportions of consumers here actively distrust the science.

Consumers also mostly trust scientists’ claim that the way we produce and consume food today can have a negative impact on our health, although Japanese consumers, being generally more skeptical, are much less likely to believe this information relative to consumers in the other surveyed countries.

Consumers are even more likely to trust scientists’ claim that human activity and consumption patterns are changing the world’s climate, with more than two-thirds of consumers aligned with this claim. Consumers in Asia and Latin America are the most trusting, while one in five Americans do not trust scientific claims on humans’ impact on the climate. Still, consumer perceptions that scientists agree on climate change has increased in several countries.

PERCEIVED ENVIRONMENTAL IMPACT OF FOOD

- Consumers are generally able to distinguish between foods that have a more intensive environmental footprint from foods that have a less intensive footprint, yet they may tend to underestimate the environmental impact of beef.

This study asked consumers to rate the impact of various types of food on the environment to assess baseline knowledge about their environmental footprint. Beef is perceived to have the most detrimental impact on the environment by consumers globally, while beans are seen to have the least impact, perceptions that are largely consistent with reality. When comparing the perceived environmental impact of

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1 See Lorenzoni, Nicholson-Cole & Whitmarsh, 2007
various foods versus consumers’ reported consumption of those foods, we find that the foods that are seen as having the highest impact (i.e., beef and pork) are consumed much less frequently than fruits and vegetables, which are perceived to have a low environmental impact.

Beef also tends to be consumed relatively less frequently by consumers in those countries where people tend to recognize its detrimental impact. A similar pattern is noted for chicken and poultry, and fish and seafood. Mexicans and Brazilians are the exception to the pattern in terms of beef, as they are frequent consumers of beef even though they acknowledge beef’s impact. Mexicans and Hungarians are relatively frequent consumers of chicken/poultry despite recognizing its impact, whereas for fish and seafood it is instead the Chinese who are relatively frequent consumers, even though they are more likely than the 18-country average to recognize the environmental impact of this type of food.

**FUTURE FOOD CONSUMPTION INTENTIONS**

- Informing consumers about the environmental impact of different types of food affects their intentions to consume these foods, with a number of consumers saying they will include more locally produced and organic food in their diets.
- Consumers’ self-reported reason for eating less meat in the future is most likely to be either health or cost.
- Animal treatment, food safety and environmental impact are less likely to motivate reductions in meat consumption.

When asked to think about the knowledge they have about the impact of food consumption on the environment and then indicate their intention to change their consumption behaviors for environmental reasons, a majority of consumers say they intend to change their food habits. Latin Americans, Chinese and South Koreans are among the most likely to say they intend to change their behavior, whether or not they have done so in the past, specifically because of the environment. British, German, Australian, American, Canadian, and Japanese consumers, on the other hand, are less likely to say they plan to change their consumption patterns to mitigate their environmental footprint.
Results also show that informing consumers about the environmental effects of different types of food affects their intentions to consume these foods. After showing respondents the relative environmental impact of different types of food, the survey asked about their future intentions to consume them; globally, consumers tend to say that they will change their food consumption habits to be more sustainable after learning about their respective environmental impacts, suggesting that this type of specific information may have an effect on people’s intention to change their behavior.

Consumers in the 18 countries surveyed tend to say that they plan to eat more grains and beans, more locally produced and organic food, and more self-grown food than they do now after learning about the environmental impact of different food types. They also claim that they will consume significantly less beef and convenient or packaged food, and also consume less bottled water, chicken, and pork. Intended consumption of fruits and vegetables or lamb does not change after learning about their environmental impacts.

In addition to these questions about the intention to change consumption of specific types of food after learning about their specific environmental impact, this study also revisits questions asked in previous editions of the Greendex survey that pertain to meat consumption specifically. Results show that meat consumption in the 18 countries surveyed is generally reported by consumers to have stayed the same or to have been somewhat reduced over the past five years. However, Chinese and South Korean consumers are most likely to report increases in their meat consumption, with four in ten Chinese consumers saying that their meat consumption has increased.

When asked why they reduced their meat consumption, consumers respond that the most important reason for having reduced meat consumption in the past is cost. Health considerations are the second-most important reason. Environmental concern ranks as the least important motive for reduced meat consumption among the reasons examined in this context, although Swedish consumers appear more driven by environmental motives here than are consumers in other countries. Food safety is a relatively strong factor among Chinese, French, and Indian consumers.
Consumers’ self-reported motivation for eating less meat in the future is most likely to be health, followed by cost. Animal treatment, food safety, and the environment are least likely to be motivators. However, food safety is more likely to be a motivator for Chinese and Indians, whereas environmental concern is particularly important for Swedes.

Respondents who never consume meats were also asked to report their reasons for not doing so. More than half of global consumers who never eat meat choose not to do so for ethical reasons; while around one-third of consumers claim health or environmental impact as the primary reason behind their decision.

INFLUENCING FOOD CONSUMPTION

• Fewer than one in ten consumers report that they are strongly encouraged by their friends or peers to make more environmentally friendly food choices. While the analyses identify peer influence as the strongest driver for changing food consumption patterns, it appears that only a very small proportion of consumers are currently exposed to this important mechanism for influencing consumers to eat more sustainably.

• Consumers appear to be open to advice about their consumption habits when the implications are linked to their own health and when the information is communicated by a doctor or healthcare practitioner, as they indicate they are most influenced by these sources of information.

Respondents were asked a series of questions to provide a measure of the social factors that influence respondents’ consumption choices. Consumers were asked to what extent they are encouraged by their friends or peers to make food choices that have less of a detrimental environmental impact, and if they are encouraged how likely they are to comply with the encouragement. Consumers were also asked how likely they are to encourage their own friends/peers to eat more sustainably. Results show that few consumers are strongly encouraged by their friends/peers, or themselves strongly encourage others, to make more environmentally friendly food choices. However, those who are encouraged often comply. Though the number of consumers who admit to being influenced by their friends/peers to change their food habits is relatively modest, the analysis indicates that peer influence is actually the strongest potential driver of food behavior change, if only consumers were more encouraged and motivated to share their own sustainable food habits with others to encourage them to also become more sustainable.

Fewer than one in ten consumers say that their friends and/or peers strongly encourage them to make food choices that have less of a detrimental environmental impact. For a majority of global consumers, encouragement from their friends and/or peers in this area is moderate or weak, and one-third of consumers say their friends and/or peers do not encourage them at all. Consumers in some emerging economies, such as China and India, are most likely to claim that their friends and/or peers strongly encourage them to make food choices that have less of a detrimental environmental impact. In contrast, Anglo-Saxon consumers, including Germans, are most likely to say that their friends or peers do not encourage them at all.

However, of those whose friends and/or peers do encourage them to make food choices that have less of a detrimental environmental impact,
almost half of consumers in the 18 countries surveyed say they are likely to comply. Chinese consumers are the most prone to think they will comply with the encouragement, with one-quarter of Chinese saying they are “very likely” to do so. European consumers tend to be among those least likely to comply with their friends’ and/or peers’ encouragement.

Results suggest that consumers tend to listen to advice about more sustainable food consumption when linked to their own health. When asked directly to pick two influences that could most cause them to make their food consumption choices more environmentally friendly, consumers globally tend to choose doctors or other healthcare practitioners most frequently.

Scientists and environmental organizations are also relatively influential. Other suggested sources, such as business leaders, athletes, or politicians, are considered far less influential in terms of encouraging environmentally friendly food habits. This finding suggests that consumers may be more receptive to information about how to eat in a more environmentally responsible way if this information is integrated with recommendations on how to eat healthier that are provided by sources with medical or scientific credentials.

Globally, consumers are also not very likely to encourage their friends and/or peers to make more environmentally friendly food choices, although more than an additional one-third report that they “moderately” encourage others to change their behavior. Indians and Chinese are the most likely to say that they strongly encourage their friends and/or peers to make food choices that have a less detrimental impact on the environment. Anglo-Saxon consumers, along with Germans and Japanese, are the most likely to say they do not influence their friends and/or peers at all.
DRIVERS OF FOOD CONSUMPTION BEHAVIOR CHANGE

- Encouragement from peers to eat sustainably is statistically the most effective motivator for consumers to change their consumption patterns, even though few consumers are currently exposed to this driver as only a small proportion report being strongly encouraged by their peers to eat more sustainably. It is potentially a strong driver for the largest number of people, although only a small proportion is currently exposed to it. Increased peer influence appears to be key for unlocking further behavior change in the area of food, suggesting grassroots peer-to-peer activism in the area of sustainable food has the potential to be very effective in changing consumers’ food habits.
- A lack of worry about one’s food habits is the primary obstacle for consumers to eat more sustainably.
- Consumers who are young, female, have a higher education and income, live in urban areas, or have more family responsibilities are more likely to change their consumption behavior.

To understand the demographic and psychosocial factors that affect consumers’ decision-making processes in the food category, we developed a Behavior Change Index that scores consumers’ willingness to change their food consumption patterns specifically for the benefit of the environment, combined with the potential to further improve their current consumption patterns considering the extent to which they already display sustainable food habits. We then computed a factor analysis to group the questions in the survey that have a similar influence on behavior change (i.e., “drivers” of behavior change). Using correlation analyses, we identified which drivers have a positive impact on food consumption behavior change and those that have a negative impact. A total of 14 drivers were identified, with four drivers having a particularly positive impact and three drivers having a particularly negative impact when the 18-country data are analyzed all together. All 14 drivers are relevant in at least one of the surveyed countries, however.

**Positive Drivers**

Positive drivers increase the likelihood that a respondent will change his or her food consumption behavior to mitigate her or his environmental footprint. The drivers include the influence of peers (labelled Peer Influence), the belief that humans have caused the current environmental crisis due to our consumption patterns (Human-Environment Interaction), concern for the health of the environment (Environmental Concerns), and the size of respondents’ current environmental footprint (Environmentally-Friendly Behavior).

**Negative Drivers**

Negative drivers represent an obstacle for changing food consumption patterns, because they decrease the likelihood that a respondent will modify his or her behavior toward sustainable consumption. The drivers include the degree to which the respondent currently eats unsustainably (Unworried), the respondent’s desire to consume luxury goods (Hedonism), and

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2 The factor analytic process that determines the drivers is dependent upon the content included in the initial survey, which necessarily limits the degree to which the drivers encompass all possible motivations that could result in behavior change. However, each driver is also only composed of survey questions that satisfy a statistical criterion, which ensures a certain degree of confidence that the drivers reflect a specific aspect of consumer motivation.
respondent’s knowledge of how consumption behavior impacts the environment (Lack of Knowledge).

**Overall Potential for Behavior Change**

By looking at their Behavior Change Index mean scores, we can assess the overall potential to change food consumption patterns for consumers in each country. Our analysis shows that Mexicans have the most potential to change their behavior while Japanese are the most resistant to change, and that consumers in Brazil, Argentina, China, India and South Africa are more likely to change their behavior than consumers in North America, Europe, Australia and Japan.

**CHANGING FOOD CONSUMPTION: A CONSUMER TYPOLOGY**

- An analysis of the patterns of behavior change within the food category identifies five distinct groups of consumers who can each be profiled for optimizing communications and influence measures.
- The largest group, whom we call the Moveable Masses, is also the one that demonstrates the greatest potential for changing food behaviors.

Based on advanced statistical modelling, we have identified distinct groups of consumers that differ from each other in terms of their intent and capacity to change their current food habits. Results reveal five segments that range from those who are unwilling to change their not very sustainable habits, to those with a heavy footprint but who are open to change, to those with a modest footprint but who still want to improve environmental behavior, to those most driven to improve their environmental footprint, to vegetarians who already have a very light environmental footprint.

Across the 18 countries surveyed, the Moveable Masses segment accounts for the greatest number of consumers (37%), followed by the Motivated Greens segment (27%), the Conflicted segment (17%), the Immobilized segment (16%), and Committed Vegetarians (2%). When looking at the proportion of consumer segmentations in each country, Spain has the most Moveable Masses consumers (59%), France has the most Conflicted consumers (34%),...
Hungary has the most Motivated Greens consumers (51%), Japan has the most Immobilized consumers (35%), while India has by far the most Committed Vegetarians (24%).

The chart below shows the relative overall potential to change food consumption patterns as well as vulnerability to change-impeding obstacles for each consumer segment, by plotting each segment based on the extent to which they are statistically driven to change (x-axis) versus their resistance to change (y-axis). The overall potential for change for each segment is demonstrated by the darkness of the color (darker color indicates higher potential to change) and the relative size of each segment across the 18 markets is demonstrated by the size of the segment bubble.

These five segments can be described as follows.

**Moveable Masses - heavy footprint but open to change (37% globally)**

The largest segment across the 18 markets surveyed, the Moveable Masses segment consumes a lot of food with a heavy environmental footprint, but is open to change behavior. Consumers in this group have good intentions to eat in a more environmentally responsible way. They are relatively conscious of environmental issues and understand that we need to make changes in our consumption patterns, but many feel they lack enough information or feel unable to make a difference. Moveable Masses consumers are also relatively materialistic compared to the other segments. This segment represents mainstream consumers who are mostly middle-aged with average levels of education and income, and they are somewhat more likely to be male than female.

Moveable Masses consumers are a key demographic for food consumption behavior change, as they are the most easily influenced segment and also constitute the largest group of consumers with a lot of room to improve. They are among the most affected by positive influences to change their food habits, but are
also the most strongly influenced by obstacles to change. By focusing on removing the barriers to change for this large group of consumers, it may be possible to unlock significant improvements in food consumption patterns across the world.

The most important obstacle to food consumption behavior change for Moveable Masses consumers is what we summarize as “Unworried,” i.e., less sustainable food habits and a lack of concern about food origin. For this segment, unsustainable habits and a lack of concern are themselves the main obstacles to adopting more environmentally friendly habits and attitudes. Incremental changes toward more sustainable food consumption coupled with information that stimulates thoughtfulness about food may enable behavior change within this group. If the food industry, including retailers, were to limit their less sustainable food offerings (known as choice editing) and instead offer more sustainably produced products, this negative driver might be mitigated.

Consumers in this group are influenced to change their food habits by several positive drivers, including Peer Influence, i.e., encouragement by friends/peers to be more environmentally friendly and respondents encouraging others to be more environmentally friendly, Human-Environment Interaction, i.e., the belief that humans are affecting the environment and in turn our health, and Environmental Concern. Peer-to-peer communication about environmental issues, possibly through social media channels, is therefore a potential way to encourage more sustainable food consumption patterns for this group.

Beyond peer influence, members of the Moveable Masses segment tend to report that information provided by doctors, healthcare professionals, and scientists would be most likely to motivate them to change their consumption behavior. Politicians, on the other hand, are found to be the least influential.

**Conflicted Segment - modest footprint but low levels of concern and empowerment (17% globally)**

A relatively small segment across the 18 markets surveyed, consumers in the Conflicted Segment already have somewhat environmentally responsible eating habits (e.g., they consume relatively low levels of beef or fish and seafood), and want to improve even further, but they lack motivation and environmental concern. Conflicted consumers are less environmentally conscious than consumers in most other segments and many tend to distrust scientists. They feel unable to make a difference as individuals to improve the environment. Consumers in this group also say they lack information about how to eat in a more environmentally sustainable way, and most feel it is not worth the extra cost to buy more sustainably produced food. However, Conflicted consumers are not particularly materialistic compared to other consumer groups. Consumers in this segment are most often male and they tend to be younger with low or average incomes and a medium level of education.

Conflicted consumers are not as easily influenced to make positive changes to their eating patterns as the Moveable Masses, but they are also less resistant to change. However, as they already have a smaller environmental footprint in terms of their food consumption they also have less room to improve. For the Conflicted consumers, providing information about how humans are affecting the environment may be helpful in stimulating behavior change around food,
particularly if the information is communicated by a doctor or healthcare professional, since knowledge about how human activity is affecting the environment (and in turn our health) is one of the main drivers of behavior change for this group. Peer Influence, i.e., encouragement by friends/peers to be more environmentally friendly, and consumers encouraging others to be more environmentally friendly, also acts as a strong motivator to change behavior. Unworried, i.e., self-described unsustainable food habits and a lack of concern about food origin, is the largest obstacle to change for Conflicted consumers. Decreased access to unsustainable food choices through choice editing and the encouragement of increased compassion for the environment may help counteract this negative driver.

Motivated Greens Segment - most driven to improve environmental footprint (27% globally)

The second largest segment across the 18 markets surveyed, people in the Motivated Green segment are the most environmentally driven. People in this group already display environmentally responsible eating habits, but they are motivated to improve even further. Motivated Greens tend to be worried about environmental issues and they mostly trust scientists’ views of food and the environment. They are environmentally conscious consumers who often do not mind paying a premium for sustainably produced food and tend to be well-informed about the food they consume. However, Motivated Greens do not always feel empowered to make a personal difference in terms of affecting change at the social level or among their peers. Motivated Greens are more often female than male, and they tend to have an average income and a medium level of education.

Motivated Greens consumers already display relatively sustainable eating patterns so they do not have as much room to improve as Moveable Masses consumers, but they tend to be relatively easily influenced to make further improvements in their eating habits, particularly if they receive information from doctors and healthcare providers, or representatives from environmental organizations whom they say are influential, on how to do so. This consumer group is least likely to change their behavior based on information received from business leaders or politicians. They are also less affected by obstacles to change than are consumers in most of the other segments.

Motivated Greens are often influenced by their friends or peers, and tend to be the most driven by the Peer Influence (the encouragement by friends/peers to be more environmentally friendly and respondents encouraging others to be more environmentally friendly), Human-Environment Interaction (the belief that humans are affecting the environment and in turn our health), and Environmental Concern drivers. Consumers in this segment constitute a receptive audience for further engagement on environmental issues through social networks (virtual or not), and further education about environmental issues will likely encourage even more responsible eating habits among this group. The high overall potential to change for this group also emphasizes the importance of positive reinforcement for those who already display relatively sustainable habits because this has been to motivate further positive change (see 2014 Greendex Highlights Report).
Immobilized Segment - moderate footprint and does not intend to change (16% globally)

A relatively small segment across the 18 markets surveyed, the Immobilized Segment consumes a moderate amount of food with a heavy environmental footprint and is not open to changing its behavior. Consumers in this group are not very concerned about the environment and they mostly do not think it is worth the extra cost to buy food that is sustainably produced, even though they usually understand the benefits of buying organic or local foods. Immobilized consumers tend to be distrusting of scientists’ claims about food and the environment, and many feel that consumers have little influence over how food is produced. Most Immobilized consumers are male and middle-aged and they tend to have average levels of income and education and are more likely than those in other segments to have no children 18 or younger.

Immobilized consumers are characterized by their inability to change, as they are the most affected by negative drivers or obstacles to change along with the Moveable Masses segment, but are also the least easily influenced by positive drivers of food behavior change. As with the other segments, Unworried, i.e., less sustainable food habits and a lack of concern about food origin, is the largest obstacle to change for the Immobilized segment. Also, like the other segments, decreased access to unsustainable food choices by food companies switching to more sustainable offerings and encouraging engagement with environmental and health issues may help counteract this negative driver.

In terms of positive drivers, Immobilized consumers tend to be particularly affected by the Peer Influence driver, i.e., the encouragement by friends/peers to be more environmentally friendly and respondents encouraging others to be more environmentally friendly. Social media and other peer-to-peer communication to increase interest about the environment may constitute a possible avenue to drive food consumption behavior change for this challenging group of consumers.

Notably, however, when asked to indicate who would most influence them to change their consumption behavior (i.e. doctors and healthcare professionals, environmental organizations, politicians, scientists) almost half of the Immobilized consumers respond that they would not be persuaded by any of the stated groups (48%).

Committed Vegetarians Segment - already have a very modest footprint (2% globally)

A very small segment across the 18 markets surveyed, consumers in the Committed Vegetarians Segment already display environmentally responsible eating habits and have little room for further improvement. This group of consumers is environmentally conscious and tends to feel guilty about their own impact, despite their light footprint from food consumption. Committed Vegetarians are also mostly well-informed about their food and most think it is worth the extra cost to buy sustainably produced food. They tend to encourage their friends or peers to make more environmentally friendly food choices, but they are more likely than others to feel that individuals can do little to solve environmental problems on their own. Consumers in this group are more likely to be female and tend to fall into a younger demographic, with an average or high level of income and a moderate level of education.
Committed Vegetarians are less affected by obstacles to changing their food consumption patterns than are consumers in most other segments, except Motivated Greens, and they are significantly more easily influenced by positive drivers of change. However, as they already eat responsibly and because of the very small size of this segment, changes to their food consumption patterns will not have a large effect overall. This segment is mostly driven by the Meat Is Bad for the Environment driver, and they are much less influenced by the Peer Influence driver, i.e., the encouragement by friends/peers to be more environmentally friendly and respondents encouraging others to be more environmentally friendly, than are consumers in the other segments (likely because they already eat sustainably). Similar to those in the other segments, Committed Vegetarians report that they are more likely to be influenced by doctors and health care professionals, and representatives of environmental organizations. They are least likely to be influenced by politicians. This segment is not particularly influenced by obstacles to change, as the negative drivers show only a weak relationship to their intended behavior.

Drivers of Behavior Change across Consumer Segments

With the exception of the Committed Vegetarian segment, consumers align in terms of which drivers are the key motivators or obstacles for behavior change (see chart below). Peer influence, or the encouragement from friends to consume sustainably, is the key factor in motivating consumers to change their consumption patterns. This trend is especially true for the Immobilized segment. While currently unlikely to change their food consumption behavior, for this group, a societal shift in consumption patterns could in turn motivate them to improve their own consumption behavior. The primary motivation for Committed Vegetarians to improve their eating habits is the degree to which they are aware that meat is bad for the environment. However, this group has already excluded meat from its diet, suggesting that they are not a key demographic for behavior change.

The Conflicted segment is equally motivated by peer influence and their belief that human consumption patterns are degrading the environment, suggesting that for this population, the use of social media to raise awareness about the human-environment interaction could be especially productive in initiating behavior change.
Unworried, which reflects consumption behavior that is detrimental to the environment and a lack of compassion for the planet, emerges as the primary obstacle for behavior change across four of the five consumer segments. Promoting compassion for the environment and advocacy for sustainable production within the business community, in order to increase the offer of sustainable food and decrease the availability of unsustainable food choices, therefore remain as the primary routes to initiate behavior change across the majority of consumers.

Drivers of Behavior Change across Countries

The surveyed countries can be categorized into four clusters based on similarities in what drives behavior change among consumers. The results of this analysis can be seen immediately below. Country groups appear to be similar in terms of what drives their potential for behavior change, but the degree to which individual drivers influence behavior is what differentiates the clusters.

For country clusters 2 and 3, the encouragement of friends and peers to be more environmentally friendly emerges as the most important factor to persuade consumers toward sustainable consumption. The importance of peer influence aligns with the rise in social media around the world as a prominent form of social interaction, and the increasing accessibility and connectivity among individuals. However, social media also permits the ability for individuals to grow and develop their network with the global community, and thus be influenced by it. It is therefore possible that for consumers in country clusters 2 and 3, social media may be an appropriate avenue for initiating sustainable consumption patterns.

The belief that human behavior is impacting the environment is a key driver of behavior change in country clusters 1 and 4, suggesting that educating these consumers on how their behavior impacts the environment may be essential for initiating behavior change in these markets.
Unworried, which includes self-described unsustainable food habits and a lack of concern about the origin of food, are the primary obstacles for behavior change in country clusters 1, 2, and 3. Indian consumers, who alone constitute country cluster 4, are less likely to change their consumption patterns because of their faith in government, companies, and technology. In other words, Indian consumers’ strong faith in these actors to solve environmental challenges in turn reduces their own desire to change their consumption patterns.