Enhancing Food Environment Assessment Tools for LMICs: Lessons from a Pilot Study in Liberia, Honduras, Nigeria, and Timor-Leste Webinar

Webinar Transcript

Sarah McClung

Thanks so much, Yaritza. Good morning, good afternoon, good evening, greetings wherever you are in the world. We're so happy to have you on this Advancing Nutrition Webinar. My name is Sarah McClung, I'm a technical advisor on the USAD Advancing Nutrition Food Systems Team, and I'm also the activity lead for the Food Environment Assessment Pilot that we'll be hearing about today. I will also be serving as your moderator today, so I'm going to start by taking us through the webinar agenda that you see on the screen here, and before we do that, we actually would like to pose a question to our audience, and this is just to get a sense of your familiarity with food environments as a concept.

if you wouldn't mind pulling up that slide. I'll just go through the options and this isn't a test or you won't be penalized or anything, there's no right or wrong answers, but just please select the option that describes your familiarity with food environments as a concept. The first one, I am new here and I'm here to learn more. The second one, I'm familiar with food environments, but just learning about assessments and then the third one, I am a pro, I am very familiar with food environments conceptually, and I am aware of assessment options. If you could just self-select, it helps us have a better sense of who's on the webinar and how we can guide this conversation. Thanks.

About 75% of our audience has participated. Great. Let's just wait one moment longer.

[pause 00:01:49]

I think we can go ahead and move on. Yaritza, does that sound okay to you?

Yaritza Rodriguez

Yes.

Sarah McClung

All right. Thanks so much. We can see the results here on the screen and we have a mix. We have some people who are brand new, the majority who identify as in the middle there, so you've heard the term food environment, but you're maybe learning more specifically about assessment options, and then we do have some pros joining us today, so happy to have this mix in a better sense of our audience. Thanks for participating. All right. On today's webinar agenda, we have the five items that you see here, and just so that it's really clear where we're coming from, we're speaking about a multi-year advancing nutrition activity that looked at food environments, but specifically at options for assessing food environments. We'll begin the webinar with some food environment key concepts and definitions.

We will then hear a bit more pilot study background and rationale, and specifically USAID's interest in investing in food environment assessments. We will then go into the package itself, so that's number three. On this agenda, we will talk about all seven assessments that are included in the food environment assessment package that was piloted, and from there, we will have an opportunity to hear from one of our research partners, specifically Ipsos in Nigeria will speak in detail about their experience using the food environment assessment package. We'll protect some time at the end for Q&A and some good discussion. Next slide, please.

I'm joined by four speakers today and the next two slides have their names and the order that they'll be speaking in, so please allow me to introduce them briefly. Chris Rue, a Nutrition Data Advisor to USAID in the Center for Nutrition is joining us as the activity manager on the USAID side, so he manages several activities related to monitoring, evaluation, learning, and or Mel including this advancing nutrition work stream on food environment assessments. We've been really lucky to work very closely with him on multiple pilot countries.

Next, we'll hear from Teresa Warne. Teresa works with Advancing Nutrition as a consultant and we're very lucky to have her providing leadership on the data analysis front. Next slide, please. After Chris and Theresa, we will hear from our colleagues at the Ipsos Africa Center for Development Research and Evaluation. First we'll hear comments from Pushpendra Mishra, and then from Stephens Igho. These two were the provided leadership from the whole Ipsos team and can speak in detail about their experience actually using the food environment assessment package that was piloted. Next slide. I'm going to quickly take us through just a couple key concepts and definitions related to food environments. Next slide.

First, let's just get this out of the way. What do we even mean by a food environment? We're talking about the space within the broader food system where individuals directly procure food. On this graphic you see a lot of activity around this little circle figure with an individual in the middle, and that represents the idea of a food environment. You have that individual and different symbols indicating different factors that might influence their food choices.

I think we can all relate to food environments in general and the different influences that drive us to make certain food choices over other food choices. That's the space that we're focusing on here today. Next slide, please. This slide reminds us that there are different types of food environments. Today we're very much focused on markets. You might hear the term market food environment, but the image below reminds us again that there are natural food environments, built food environments, and a reason for focusing on markets for this activity is their role as really important channels for food acquisition for households all over the world. Next slide.

Food environment domains. We like to pause and talk a bit about the framework that you see on the right here that's divided between external domains and personal domains. I would like to draw attention to the different food environment dimensions that you see in yellow text. Under external domain. An external domain refers to dimensions outside of an individual's influence. We have four food environment dimensions, availability, prices, vendor and product properties and marketing and regulation.

We categorize those as under the external domain. Similarly, there's the personal domain, and this refers to dimensions within an individual's influence. Under the personal domain, we see accessibility, affordability, convenience and desirability. I'd like to pause here and actually go into the content on this framework because our assessment package touches on seven out of eight of the food environment dimensions that you see on this framework.

This was absolutely a real guiding framework for the entire pilot study. You'll hear references back to food environment dimensions. Next slide, please. That's all from me for now. I'm going to hand it over to Chris and we'll hear a little bit more study background and rationale. Over to you, Chris.

Christopher Rue

Thanks, Sarah, and welcome, everyone. Thank you so much for joining us around the world. I want to provide some context around USAID's interest in exploring the package of food environment metrics that we're going to be talking about today and how we envision they could be used to inform food systems programming for improved diets and nutrition outcomes.

Several years ago USAID began looking at market oriented food systems approach to improve nutrition outcomes. We knew that more and more people around the world were procuring their foods in markets.We followed a line of thought that some of our interventions in the food system could have an impact that shows up in markets which could influence and hopefully improve diets and nutrition outcomes.

Very broadly, we were beginning to articulate what we now know as a food systems approach for nutrition, which is more firmly established in our recent global food security strategy refresh in our RFS food systems conceptual framework. Back then we just had a few examples of activities along these lines. What we were missing were robust tools and information that could help design these interventions and could also help measure changes that we expect to see in market food environments. We asked USAID advancing nutrition to look into this. Next slide, please.

This study aims to develop low resource, feasible and suitable guidance and tools to assess food environments and capture data that informs actions. I want to focus on two words here. First is feasible. There are a lot of potential measures out there and some of them can get pretty complicated.

We really wanted tools that could be feasible used by our implementing partners as part of their formative research or part of their routine monitoring and evaluation. The next word is inform. We really wanted these assessments to be informative for emissions and partners so they could use this information for activity design and monitoring.

The assumption here is that the information from these assessments would be complementary to other information that you would need, such as production and consumer demand, but the point is that the food environment metrics we tested should inform how we design and monitor our activities. Next slide. We were looking for a package of assessments to do a few things. First, to characterize dimensions of food environments, and identify barriers and opportunities for where we can pinpoint our programming.

We want to be able to compare food environments across locations, and over time, using a consistent set of metrics. We want to monitor the impact of our interventions on food environments, and we want to use these tools to help us tell a more coherent story of how our interventions in the food system and on food environments can help relate to diets and health and nutrition outcomes. Next slide, please. Ultimately, we came to a package of seven assessments that we're going to talk about today. I'll just quickly go through them right now.

The first one is market mapping. This one tells us what types of food vendors are available in each market. The second is seasonal calendar of availability, which gives us an idea of which foods are or are not available at different times of the year in the market. Next is the market food diversity index. This

tells us if food groups are represented or missing in markets. The Healthy Eating index looks at whether markets have sufficient quantities of foods to satisfy recommended intakes.

The cost of a healthy diet tells us how much it costs to meet dietary recommendations. EPOCH or the Environmental Profile of a Community's Health tells us to what extent consumers are exposed to healthy or unhealthy food advertising in markets. Then the produce desirability tools. This tells us which fruits or vegetables in the markets are appealing or desirable to customers. Next slide, please. USAID advanced nutrition went through a rigorous process to whittle down the many food environment assessments out there to this list of seven assessments that I just showed.

Basically, Advancing Nutrition conducted a landscape assessment. There were 113 assessments identified at first, a lot of which were designed with a high country context in mind. They rate these assessments for suitability in low and middle-income country contexts and focus on assessments that look at the external domains of food environments which Sarah talked about earlier. The team also surveyed a group of experts, focused their questions on four criteria, suitability for implementation, level of training required, resource intensity and ease of translating results into actions.

To me, this means the criteria are meant to ensure that the assessments would be feasible and informative. Then they came to this priority list of seven assessments that we want to actually test in the real world. Next slide, please. We were really excited and grateful to be able to work with our missions and partners in Liberia, Honduras, Nigeria, and Timor-Leste, to pilot these assessments in four very different contexts. As you can see, these pilots took place starting in September of 2021, in Liberia, and we just wrapped up our last pilot a couple of months ago in Timor-Leste.

I'm really excited that we have our partners from Nigeria here to talk about their experience piloting these assessments a bit later in this webinar, but now I think we can dive into the assessment package. Over to Teresa, and next slide, please.

Teresa Warne

All right. Thank you, Chris. Again, my name is Teresa Warne. I have lots of information to cover for the seven food environment assessments, so, I will just jump right in. I'm going to start by introducing each assessment, convey the objectives, very briefly cover the research questions, and then go into more detail with some examples. As a reminder, the webinar is recorded, so you may refer back to any slides if you wish after the webinar is posted. For each assessment, I pulled some examples from the pilot countries that might be interesting for the purposes of this presentation. The data collected from the assessments can be illustrated in other ways with flexibility in options to visualize the data in numerous different formats.

Next slide please. Before covering each of the seven assessments, I wanted to briefly cover social participatory mapping. Here you can see the food environment dimensions measured as well as the objectives for social participatory mapping. This exercise is not included as one of the seven assessments. However, it is an important formative step to understand which market food environments consumers are interacting with in the given study area to inform market selection. Next slide, please.

This figure illustrates an example of social participatory mapping where a group of consumer focus group participants work together to create a map to document the market food environment commonly accessed in the community. Next slide, please. Assessment One, Market Mapping. Our first assessment, market mapping, evaluates the food environment dimensions, availability, accessibility, and

convenience. Market mapping is completed at both the community level and the market level. Next slide, please.

The overall objectives of the market mapping assessment is to provide context of the food environment in a specified area. The specific objectives of the market mapping assessment are to document the characteristics of the community, including infrastructure such as whether or not there is internet access or electricity, access to paved roads, post offices, and so forth.

Market mapping also documents distance from the market to specific community features, the number and types of market food environments in the community, as well as the types and numbers of vendors within selected markets. Both market food environment types in the community as well as vendors or stalls in the market fall into either two categories that are predefined in the assessment instruction manual and include healthy or unhealthy food environment types. Next slide, please.

I will briefly pause here. Before moving on, these are the four research questions that go along with the objectives for the market mapping assessment. Next slide, please. This is an example of the prevalence of market food environment types at the community level for the market mapping assessment. This is a very quick illustration for how data collected from the market mapping assessment can be used.

Six different generic communities are shown along the X-axis in this example with the green representing the count of market food environment types classified as healthy such as supermarkets, opener markets or butcher shops and blue representing the counts of market food environments classified as unhealthy or as offering foods to limit such as convenience stores or sweet shops.

With these healthy and unhealthy market food environment type counts, the data can be used to calculate a modified retail food environment index for each community. In this example, community two has an mRFEI of 54%. Again, that's taken by dividing 21 healthy market food environment types by the total market food environment types 39 for community two. Communities with a low or less than 50% mRFI have a greater prevalence of market food environment types offering unhealthy foods or foods to limit. High scores or scores greater than 50% have a greater prevalence of market food environment types offering healthy foods.

We would like to see high mRFIs in communities, which would correspond to a majority of market food environment types offering healthy foods in those communities. Next slide, please. Assessment Two, Seasonal Food Availability Calendars. The seasonal food availability calendars are used to evaluate the food environment dimension, food availability with the understanding that access in the food environment varies throughout the year. While seasonal calendars of availability can be used to evaluate the wild and cultivated food environments along with built market food environments, this protocol focuses on market food environments. Next slide, please.

The overall objective of seasonal food availability calendars is to visually depict the availability of fresh foods that are locally available in markets during all months of the year. A secondary objective is to identify patterns of seasonal changes in availability. Next slide, please. I'll briefly pause here. These are the four different research questions that go along with the objectives for the seasonal food availability calendar. Next slide, please. This is an example at the market level of the monthly average availability scores along the Y-axis across the year, along the X-axis for five food groups from a set of food-based dietary guidelines. In this example, we focus on generic market X with the five food groups that include fruits, vegetables, cereals, and tubers, protein-rich foods, and dairy. The food groups with lower average scores represent lower availability, while higher scores or scores closer to three represent food groups having the greatest availability.

Figures like this can help illustrate market offerings in which months or which food groups have higher or lower average availability in the market throughout the year. For example, vegetables in December at the very right have lower availability with much greater availability at the very left in January. This information can be used to target interventions over specific months or for specific food groups in the market location. Next slide, please.

Assessment Three, Market Food Diversity Index. The market food diversity index evaluates the food environment dimension availability at both the market level and the vendor level. Next slide, please. The overall objective of the market food diversity index is to determine the availability of foods categorized by food groups through an inventory and vendor audit. Next slide, please.

These are the three different research questions that go along with the objectives for the market food diversity index for assessment three. We categorize the foods in the markets and at the vendor level into two food group classifications that include the MDD-W, the minimum dietary diversity for women, which includes 10 food groups, and then the dietary quality questionnaire, the DQQ, which includes 29 food groups. Next slide, please.

This table is an example of how findings may be illustrated using the 10 MDD-W, the minimum dietary diversity for women, food groups. That is shown down the rows at 12 generic open-air market locations shown across the column headings. Some of the first things I notice in this table, my eyes are drawn to the areas shaded red, which correspond to the absence of a particular food group. For example, towards the bottom, the food group eggs is missing across all markets except for one.

Also, I see markets three and four do not have vitamin A-rich fruits and vegetables recorded at the time of the assessment. I also see market 12 offers various fruits and vegetables, but no other food groups while market one is the only market with all food groups offered at the time of the assessment. This information can be used to structure an intervention highlighting respective food groups that are present in a market or absent in a market at a particular-- I'm sorry. Are those markets having a low MDD score or scores less than 10, corresponding to less than the 10 MDD-W food groups. Next slide, please.

Assessment Four, Healthy Eating Index, and Assessment Five, Cost of a Healthy Diet. Assessment four, healthy eating index of food supply, evaluates the food environment dimension availability at both the market level and at the vendor level. Assessment five, cost of a healthy diet, evaluates the food environment, dimension, price, and affordability. These are the only two assessments I will talk about together since they were coupled for the pilots. Next slide, please.

Assessment four, healthy eating index, and assessment five, cost of a healthy diet, are designed to be implemented together, however, they could be implemented as individual standalone assessments if desired. This slide shows some points of comparison for both HEI and CoHD assessments. Of note, both are benchmarked off of quantitative food-based dietary guidelines, either respective to the country or using the healthy diet basket.

The food groups within the quantitative food-based dietary guidelines are utilized in their respective recommended quantities to evaluate availability and cost to feed a family of five adults for one week. Next slide, please. The overall objective of the healthy eating index of food supply is to evaluate how aligned the food supply is in a given locality to a selected quantitative food-based dietary guideline to support diet quality. The overall objective of the cost of a healthy diet is to evaluate the minimum cost of consuming a diet aligned to food-based dietary guidelines. Next slide, please.

I'll briefly pause here. These are the four research questions that go along with the objectives for the assessment for healthy index of food supply and assessment five, cost of a healthy diet. Next slide, please. This table illustrates an example of the healthy eating index in six generic daily markets shown across the column headings through vendor audits using six food groups of their respective countries food-based dietary guidelines shown down the rows.

The first thing I noticed in this table is protein-rich foods are not offered in the recommended quantities, so having quantities less than 100% shown in red as benchmarked by the food-based dietary guideline. Protein-rich foods are not offered in the recommended quantities across all markets except for one. I also noticed that two food groups, protein-rich foods and oils shown in gray, are absent in market 10 while dairy, shown in red, is not or heard in the recommended quantity for market 10.

Finally, I noticed fruits and vegetables are prevalently offered in all markets except for market four. This information can be used to understand which food groups, if any, are lacking in the recommended quantities, or which markets may not have prevalent representation of all the groups available at the time of the assessment. Next slide, please.

This is an example figure that illustrates the cost of a healthy diet shown on the X-axis for the six corresponding daily markets shown on the Y-axis. The total cost of the diet is at the very end of the columns shown for each daily market. The first thing you may notice is market 10 has the least cost diet. However, upon further inspection, there are two food groups missing. We have protein-rich foods missing and oils.

I also notice that protein-rich foods make up the greatest proportion of costs in the diet across all markets. This information can be used to target interventions aimed at specific food groups or in certain markets. Again, this assessment evaluates price and affordability that is best understood with availability. While we may be able to gather information on price and cost, the recommended quantity may not be available in the market as a benchmark off the food-based dietary guideline at the time of the assessment. Next slide, please.

Assessment Six, The Environmental Profile of a Community's Health evaluates the food environment dimension, vendor and product characteristics and marketing and regulation at both the community and market level. Next slide, please.

The overall objective of assessment six is to evaluate the food environment for the presence of food advertisements, media promoting healthy diets, and food labeling. Next slide, please. These are the two different research questions that go along with the objectives for assessment six. Again, I'm just going to briefly pause. Next slide, please. This figure is one way to illustrate the data collected during assessment six.

Here we see 12 open-air markets on the Y-axis and advertisement counts along the X-axis. The different colors represent the different locations where the advertisements are placed, such as on a wall, billboard, or audio recorded. This figure provides information on the placement of advertisements in the communities directly around the open-air market locations, however, does not provide information on the types of advertisements which we will see on the next slide.

This figure illustrates another way to visualize the data collected during assessment six with the respect to the different types of advertisements in the communities around the markets. Again, we see 12 generic open-air markets on the Y-axis and the count of advertisements along the X-axis. The green here represents advertisements highlighting healthy foods such as fresh fruits and vegetables, while the blue represents advertisements highlighting foods to limit, such as sugar, sweetened beverages, or fast

foods. These two figures are interesting to show together to understand both placement of advertisements as well as advertisement types to direct interventions. Next slide, please.

All right. Our final assessment, Assessment Seven, Produce Desirability. Produce desirability evaluates the food environment dimension desirability. Next slide, please. The overall objective of the ProDes tool, assessment seven, is to assess consumer desirability of a predetermined market basket of five fruits and five vegetables using a sensory survey based on the following five sensory parameters. Overall desirability, visual appeal, touch and firmness, aroma, and size. Taste is not included as consumers do not generally have the opportunity to taste foods in the food environment prior to purchase. Next slide, please.

These are the two different research questions that go along with the objectives for assessment seven, ProDes. Next slide, please. Okay, this table shows an example of how ProDes may be illustrated for the selected market basket of fruits and vegetables shown down the rows across 12 generic market locations shown across the columns. The five sensory parameters for each of the five fruits and five vegetables are scored on scale from zero to six, with zero being the lowest score and six being the highest or the score representing the greatest desirability.

This table shows the average score from all five sensory parameters for each fruit and vegetable. The shading gradient moves from dark green, representing the highest average scores, to shades of yellow and red, representing low or lowest average scores, respectively. The gray shading represents where the selected market basket foods are not available at the time of the assessment.

This is a great example to highlight some real-world contextual challenges where a predetermined fruit and vegetable basket may not be available across all markets included in the study as food baskets may not be evenly distributed in low and middle-income countries. Another aspect of note are the lower scores in this table. Dates, as in this example, achieve high scores in some markets and low scores or are absent in other markets.

It is more interesting to understand the lower scores, which may highlight some of the potential challenges in these market locations, such as food storage, for example, and how interventions may be introduced to alleviate some of those challenges. With that, I will pass it back to you, Sarah. Thank you.

Sarah McClung

Thanks so much, Teresa. That really is a lot of content to go through, but I think it's important to get out the details of the assessments that are included in this package so that we're not being vague about the package, the package, the package, but you know what was actually piloted in the four different countries. I'm going to now pass it over to Pushpendra, and we'll hear about the Nigeria experience, and how using this food environment assessment package went for the Ipsos team. Over to you, Pushpendra.

Pushpendra Mishra

Thank you, Sarah, and welcome all the participants. Next slide, please. Let me briefly talk about Ipsos before I delve into the our experience while implementing this pilot. Ipsos is a global organization and we have offices in more than 90 countries across the globe. In Africa, we are known as a Africa Center for Development Research and Evaluation.

We do different kinds of research and evaluation, monitoring, and analytics for development partners in sub-Saharan Africa. We have our own offices in 11 countries, and we work through different partners

across Africa. We cover different sectors starting, let's say, with agriculture, market system, food system, health system practices, vulnerable populations, financial access and behavior, energy and climate, governance, education, and gender is a cross-cutting theme. The center has got 50 research and evaluation experts based out in different countries where we have offices. Next slide, please. Coming to particularly this pilot study. In terms of the coverage of the pilot, we implemented this pilot in three states, Bauchi, Kebbi, and Sokoto and these are northern states in Nigeria. Within each state we selected two LGAs, and within each LGA, then we selected two markets. Of course, for the selection of market, we used desk research, key informant interviews, but particularly I want to talk about social participatory mapping. This tool is the kind of participatory arousal tool which helps to understand the consumer prospective also because the market food environments where consumer interacts with the different kinds of food which is available in the market.

This tool allows us to understand broader regional context, which is present in that particular area and also it helps to understand why and what kind of markets and vendors are available in those particular communities where we are going. It also helps to determine why particular markets are more accessible and why people are preferring that particular market, and it helps to understand food dimensions, mainly about food environment, starting with accessibility, affordability, desirability, and also the convenient. We use the mixed method approach for the data collection.

Market mapping, focus group discussion, vendor audits and interviews, and observation, and particularly what happened when we implemented this tool here while imparting the training with the data collection team. Data collection team not only understand the key concept, why it is important to use a standardized tool, but it's very important to understand that also the kind of learning coming from implementing in the different countries and that also shows that the broader environment structure remains same, even if you are implementing in Nigeria, even if you go to Honduras. Next slide, please.

Moving to the challenge. While implementing the assessment, we did not find any challenges as such because since beginning we followed a participatory approach, and in the participatory approach, we worked as a team. We had a researcher, our data collection team, our team from the US advanced nutrition, and at each step we had a discussion how to move for that particular thing, and that helps to properly implement the pilot across three states.

Some of the challenges which came particularly implementing assessment four, which is healthy eating index and cost of the healthy diets, because for these assessments you need to know the quantity. Sometime what we found that some of the vendors, they were hesitant to wait, their products are item.

What happened already, we had provision in this study where we can buy small quantity of products so that easily we can mitigate this kind of challenges which came. Another important thing which we need to consider because in an environment where vendors are busy selling in their peak time. While planning a study and implementation, it's important that we consider the lean period and time where if you want to organize a focus group discussion with the vendor. Third important thing is what we notice because in north area it's male dominance area, and due to culture and religious barrier, you find majorities of them are vendors are male.

When we interacted with the vendors, we realized that they came to talk about the food item, which actually they trade. What happens in that instances, we missed out particularly one important item, which is dairy product, which is mainly traded by women. It's very important that while designing and implementing, we need to also understand the local contacts and gender dimensions while considering and implementing the food environment assessment. Over to you, Stephen. Next slide, please.

Stephens Igho

Thank you very much, Pushpendra. I'll be talking about our experiences in trade context. I'll speak, first of all, about our observations in the market, the tools that we are deployed and also collecting data from the vendors, convenience stores followed by markets that is open-air markets here. The most common food environment across the communities market with the latter being considered as being a hub for finding nutrients, rich foods are both open and rare markets had presence of all of the dietary food group as well as foods to limit.

They were almost advertising for different dense, however, it was easy for us to spot fortified foods from the packaging used for them in those markets. Now, the tool on market assessment was very, very useful for us in determining the proximity between communities and markets and accessibility to different food sources. What we noticed was that the list of vendor types was not very exhaustive. We also noticed that a tool on healthy eating index of food supply and cost of a healthy diet could be administered together instead of separately.

One major insight that we gathered from using [unintelligible 00:41:30] is that food choices are not usually determined or always determined by price and quantity, but also by interesting benefits perceived. Discussing with the vendors wasn't much of a challenge. They were happy to talk to us except for cases you have needed to have to measure some of their fresh food produce as I spoke about. Next slide, please.

Now, do these assessments actually capture the realities of the food environment in Nigeria? I would say yes, they do, and across the different dimensions, so that also they would tell by availability or accessibility, price and affordability, convenience and disability or vendor characteristics and regulation. As you very well know, Nigeria has an abundance of agricultural resources like most of the countries, but there's this major challenge with ensuring consistent food supply across the country.

Disparities in infrastructure, transportation, logistics result in even accessibility to nutritious, particularly in remote and underserved areas. The price also is a major determinant when it comes to the choices. Presently we are dealing with double digitization in the country. For the ability of healthy food options is actually a problem, especially because of high cost of production and transportation.

Now, Nigeria is actually most fast-paced experiencing this fast pace of our lifestyle that's led to an increase demand for convenient ready-to-eat food which has greatly contributed to diet-related noncommunicable diseases, because, of course, those are foods to limit that should consume less often or in little quantity.

The problem is not actually getting better because of we see every day an increase in the aggressive marketing done for foods that are unhealthy. This is actually contributing immensely to the problem. Next slide please. Now when it comes to the retail sector of Nigeria, it's diverse, because we see all different players ranging from open-air markets to supermarkets to fast food chains, informal food vendors as the sellers. This all play a significant trope in providing affordable and culturally relevant food options for people.

The problem that I've been saying with respect to that is that there's a lack of standardized safety regulations, especially around hygiene and also there's less training or very little training for vendors when it comes to food safety which tends to create issues around potential health risk for consumers. Strengthening the regulatory framework and ensuring compliance are crucial actually for improving food safety and protecting consumer health.

From all this you see that the food environment in Nigeria is characterized by complex dynamics across multiple dimensions. Why the country possesses diverse agricultural resources, challenges around availability, accessibility, affordability, convenience, and desirability in that population's ability to assess nutritious food.

Now, if you were to ask me what would I change when it comes to these assessments? Basically, three things. One, when it comes to planning a data collection and also planning training content, I would want to ensure more engagement with the local team and inclusivity of the local data collection leads when it comes to the planning.

Then, also if your assessments, you have to be deployed for a larger survey in the future, except for Assessment 2 which is purely for qualitative use, I would want to consider deploying the rest of the assessments using a copy platform. Ipsos, actually, has a very good one to use also. Now, also on that and I, actually, want to change is try to investigate these social-cultural norms that may impact or create on the reporting or setting food items due to either participatory bias or gender exclusion, just as I talked about.

Next slide, please. Now, for partners who may want to use this assessment for similar studies in the future, there are some piece of advice I would like to share with them. One is very, very important that the data collection team that is to be deployed has experience collecting market-level data related to food dimensions and nutrition. Then also, on the research side, I want to explore existing literature on food environment dynamics in my country, especially with respect to food distribution for the selected survey side as this should be very, very helpful in benchmarking locally side that may be gathered from the social participatory exercise.

Then our respect to training, I would want to make this more participatory. Please, it's always very important that the research need feels free to bring to the fore local knowledge on food market structures, vendor types, and distribution within our communities, and existing local customs that may impact on the methodology when discussing with the assessor, so the implementing team.

Then also, another thing I also want to consider is be very, very good for the researching to have a good understanding of market dynamics and when to plan data collection for the different assessments. For instance, in some markets it may be more efficient or effective to collect data using the cost of a healthy diet in the early hours of the market day. Because that is when many of the vendors who come to the market and they have much foods that can be weighed and also we can be able to collect information around the content of the assessment.

Next slide, please. Now, what has Ipsos observed in this space working with other partners? Our experiences have, actually, been varied. These have been shaped by the core focus of the research. Different partners would, actually, have a different focus, even though they're, actually, trying to gather the same information within this context. For instance, there was this partner that we, actually, worked with whose program was focused on understanding the dynamics of food safety and security within the market environment.

The key things that they, actually, investigated included things like market and vendor types, existing infrastructure, availability of food varieties, price, proximity to market revolution around food handling within the markets. Another partner, actually, was just concerned about understanding consumer habits and behavior, and especially knowledge around nutrition and food choices.

If you had to ask, are there other resources that exist to explore the food environment in Nigeria? Sure, there are. There are several publications and write-offs in Nutrition Society of Nigeria, the International Food Policy Research Institute of Nigeria, the National Agency for Food and Drug Administration and Control. Also, even the Federal Ministry of Health, actually, has a lot of obligations and explores the different aspects of the food-based market environment from the Nigeria perspective that could be researched further. Sarah, over to you, please.

Sarah McClung

Thanks very much, Stephens and Pushpendra, for your reflections and comments from what it was like to use the Food Environment Assessment Package in Nigeria. We're going to move into some question and answer and just some general discussion, so I think we can pull the slides down for now. Before we do that, I just wanted to make some comments because we're likely to get a question about what's next and where we're going with this. The four pilots are informing a Global Guidance Package, and by that I mean a full instructions manual with all seven assessments included, accompanying data collection sheets. We heard Stephens reference this. We did use paper-based data collection methods in the pilots, and so we have the sheets prepared for that, but also we'll give some guidance on adapting or going about a different approach. Also, data analysis sheets, which we heard referenced to from both Theresa and from our Ipsos colleagues.

That's what we mean when we refer to Global Guidance Package, and then there would also be some details on how and when you might go about using this Food Environment Assessment Package. If it was in an activity design context or if it was for monitoring purposes, just some discussion or framing around how partners might, actually, use this package successfully. Work on that is underway and we expect to have it finalized in the fall.

With that, I think we can ask our panelists, our speakers to come off-camera and we'll have a little bit of discussion. We have been monitoring the QA chat and we see your questions coming in. There are a few discussion questions I like to just get us going with and I'll direct one to each of our panelists. Chris, I'm going to start with you. If you wouldn't mind just commenting a bit about using the Food Environment Assessment Package for program design purposes versus, or in addition to routine monitoring purposes. What are your thoughts there?

Christopher Rue

Sure. Thanks, Sarah. For USAID, just talking about our context, our Feed the Future Initiative, it's focused on reducing poverty, food insecurity, and malnutrition, but often through agriculture-led interventions and strategies. These food environment assessments, if we're looking at them as key piece that can help link our agriculture-based activities to deliver on quality diets and address that malnutrition piece.

These assessments could help us really operationalize, I guess, nutrition-sensitive agriculture is what I'm talking about. What could they do? They can inform the kinds of interventions to target where there might be gaps in certain food availabilities or maybe seasonally when they aren't available. These assessments could help us design activities to address or look at underlying issues.

For example, if certain perishable crops which are produced locally but aren't consistently showing up in markets which we can find from these assessments, is there some breakdown in the supply chain? Is there some intervention where we can increase the supply in markets when we know that they're being produced? These assessments can point us to where to look.

They can help us see opportunities. For example, cost of a healthy diet, are there certain cheaper nutrient-dense foods that are available in markets and are relatively cheap, but they aren't necessarily the most popular foods that are being consumed? Maybe if there was some education or social behavior change or marketing intervention, could we increase the consumption of those foods when we know that they're cheaper, but more nutrient-dense?

As for the monitoring piece, yes, so we can see the potential of these tools to monitor changes in markets. For example, if an intervention is meant to increase the local availability of certain foods through increasing productivity or production of those foods, we want to see if that, actually, has an impact on the markets where people are buying foods. Again, connecting the agriculture to what people are, actually, consuming. These assessments could help potentially monitor that change.

Sarah McClung

Thanks, Chris. I think that's also a really helpful reminder about how the difference between food environment research, just to advance the field and understand more, and then using assessments like these to inform action. Thanks very much for those thoughts. Teresa, could you speak a bit more about the data analysis sheets. You showed some really impressive figures and graphs and made a comment about how you can get creative or generate all different types of graphs. Could you describe what those analysis sheets are like?

Teresa Warne

Sure. The data analysis sheets are using the Google Sheets platform. It's very similar to Microsoft Excel, for those who are familiar with Excel. The neat thing about these data analysis sheets is you could either create tables, or you could create figures, as well as show the different data ads based on geographic location, or you could also compare between daily or weekly markets.

Then using, I saw a question I'd like to use as an example, cost of healthy diet, there's so many different ways that you could illustrate that data. We, again, cost of a healthy diet is benchmarked off of the respective countries' food-based dietary guidelines. The food groups of those food-based dietary guidelines are used to collect two price points. We have the absolute least cost food, and then the lowest cost commonly consumed or commonly purchased food in that market.

You may have two different price points of the absolute least-cost diet or the lowest-cost commonly consumed diet. For example, maybe a meat product is much more expensive so it wouldn't necessarily be included in that price point, maybe a lower-cost, lentils, for example, might be included as the protein. That's just one example of how the data can be illustrated. Thank you.

Sarah McClung

Thanks, Teresa. I'm going to pull from our QA and direct questions to Pushpendra. We had a question from Nadia. She asks, "What about qualitative methods for assessing food environments?" Do you want to come off your mic and make some comments?

Pushpendra Mishra

Yes, Sarah. If you look at when we started the formative stage, we used qualitative tools like LGDs, key informant interviews with the vendor to understand. While going to the assessment, again if you look at the market mapping, for example, then again you need to use the qualitative tools. If you want to

understand the vendor perspective, then, again, you need to use the qualitative tools, which is a focus group discussion.
In terms of if you want to categorize the data looking at different aspects of food groups, then you need to, of course, use the quantitative. Also, it depends on the research question you have, because, let's say, if you want to just understand in broader sense, what is the food environment in any particular market, then you can go just to the focus group discussion with consumer and vendor, and you will understand that. That is the reason we need to use the mixed method and depending on the research question, one can decide, "Okay, what method would be better to use."

Sarah McClung

Thanks for those comments. Definitely, agree on the importance of using mixed methods. This next question, I'll direct to Stephens. This is from Sandra Rominguez. She asks, how are government entities, so this would be in Nigeria, like the NAFDAC, involved in this particular assessment and review of results. I'm curious about how you promoted government ownership and use of data. Can you make some comments there?

Stephens Igho

Okay. NAFDAC, actually, provides the regulatory framework for ensuring that manufactured food is safe. That is the role they play, basically, when it comes to the food chain in Nigeria. Now, in terms of the context of how they come into play within the food environment, it's just purely regulatory and there are quite a number of publications indicating those regulatory frameworks that can, actually, be looked into when you are trying to design an assessment of this nature.

Sarah McClung

Thanks, Stephens. I do want to add that because these were pilots, there's not a formal official launch or dissemination of our pilot findings. We've, of course, written a report and prepared presentations, but do want to stress that these were pilots and so the considerations that come with pilots just to contribute to Stephen's answer there. There's one question I saw come in relatively early, and this is from Julia. I'll just read it aloud and share my initial thoughts and then open it up to the team to make some comments. The question that we received was, "I wonder about the utility of a binary approach to categorizing food outlets as either healthy or unhealthy. When amounts of food consumed is relevant, e.g. butchers, or when vendors sell a range of foods, e.g. convenience shops. Do you have any reflections on this approach?"
I'll just start and share some thoughts and then I'll open it to my colleagues to react as well. I did want to mention that you may have noticed all seven of these food environment assessments are vendor facing or market facing, or very much about the characteristics of the market food environment itself. There is not an individual assessment that gets at consumption or the consumer perspective. I think you make a good point just introducing the word consumption, that this assessment package would not collect such data.
As far as the vendor types, I think it is important to point out that there are vendors that would sell a range, and so there is guidance in the instruction materials on how to make those classifications. You would, of course, want to understand what diets, actually, look like as far as what's being consumed. Consumption data is quite important and you would want to draw on other data sources to complement what you'd find from using the Food Environment Assessment Package. Those are just some of my initial thoughts. Do any of my panelists want to make some comments here?

Teresa Warne

I can make a comment on that. It is classified binary as healthy or unhealthy for the sake of calculating a modified Retail Food Environment Index. However, we are collecting, for example, the number of supermarkets, the number of open air markets, the number of convenience stores, and so forth. There is a little bit more categorization between healthy and unhealthy, but those two counts are used to calculate the modified Retail Food Environment Index to understand the food environment in the community.

Sarah McClung

Thanks, Teresa. Okay, why don't we move to there was a comment, and this is also from Nadia, but I thought it was interesting and I would like to hear a little bit more from our colleagues in Nigeria. This comment just says more about sharing. This is an experience from Benin, and it was for the Safe Veg Project in which we conducted a market assessment. We also faced the non openness of the food vendors to weigh their food products.

That was one of the challenges that Ipsos pointed out. Some of them saw the assistant enumerators as controllers of the Food Safety Regulation Services. Perhaps concerns about just getting them in their business, although there was a thorough information and sensitization session with the vendors in the markets. Not a question here, but I was hoping either Pushpendra or Stephens, you might comment a bit on what it's like to do market research and the interactions with vendors.

I guess I'll add the question, I have wondered, do you sometimes feel like vendors are just telling you what they feel you want to hear? Instead of, actually, just sharing the realities, they try to anticipate what you would like to hear? How do you navigate the challenges of doing vendor interviews like those you did for the Food Environment Assessments? Do you have any comments related to either this experience or the question I posed?

Pushpendra Mishra

Sarah, let me go first and then, of course, Stephen would join and he can provide more prospective. What happened? If you look at the Nigeria or I think any country, if you want to enter into the market, it's very important that you need to have the local permission from the market leader. Because until unless you have not done proper sensitization, you cannot enter into the market and nobody then entertain you, particularly what we have seen here.

Once you enter into the market, what happened if you are just on one particular method, let's say, for example, quantitative method, of course, there is a chances where you get responses which are more desirable responses. If you are using the mixed method and using the FGD and first trying to understand, doing the mapping, then all the vendors are coming together and they're working as a participatory in the nature rather than just providing answer in silo. Once you have that perspective, then you go into the quantitative one. Buy and large what happens, before you go in the quantitative, you know what kind of food items, what kind of the local contacts, everything. At least the data collector team is much aware about that before we move into that direction. Over to you, Stephen, to add further on this.

Stephens Igho

Now, a good thing about the assessment is that it speak to what, actually, the vendor do on a daily basis. Now, also the assessments also, actually, part auditing and also part observation. That's one of the good thing with using the assessment. It's very possible for you to be able to immediately sense-check whatever you are, actually, getting to hear from a vendor.

Let's say, for instance, I want to recruit a vendor, actually, after recruiting at the point of sale. I'm able to categorize the vendor as well as the vendor is selling, let's say a particular class or several categories of

particular type of several types of a particular category of food. It's an assessment that, one, we are able to collect a lot of details by physical evidence, and even in the case of asking questions with respect to vendor knowledge. Except for cases where we see some underlying cultural effects. We notice that the vendors are mostly honest to give their responses.
Now, let me give an example when I mentioned culturally. For instance, Pushpendra talked about the almost exclusion of dairy from the group of produce that we, actually, evaluated when we were doing this participatory exercise. That was because, in that particular environment, mill don't sell daily. They consider it to be a less activity to engage in and they are more comfortable talking about other food groups that they, actually, traded in.
In such context, it requires also, one, chin-up problem scalability to be able to derive or rather collect information from these vendors who may not feel very comfortable talking about activities or trading activities owned by the female gender. In terms of honesty of responses, yes, they'll be honest in their response, except for underlying families. Also when it comes to being able to penetrate the market, with the right advocacy done and also permissions given, we usually get them to participate. Over to you, Sarah.

Sarah McClung

Thanks so much. I had a couple questions related to the timeframe and the resources that go into delivering this Food Environment Assessment Package. I'll just direct that to the team whoever wants to start, but would we describe these as rapid? I guess if you can make any comments about resource investment.
I can get us started and just say that we will provide some of this guidance in the Global Guidance Package when it is made available, just about what we observed as far as the resource intensity of delivering the Food Environment Assessment Package. I will go as far as to say, I would describe the full package as rapid, but I will open it to my panelists to see if they would agree that you might describe this as a rapid assessment. Who wants to start?

Pushpendra Mishra

Yes, Sarah, even I feel that this package is strictly can be administrator on the ground. For example, any organization who is working and if they want to integrate this in their M&E Framework for the routine data collection. If they have data collector who is trained properly once, then every quarterly or by yearly they can collect that data depending on the requirement. In a sense because if you look at the package itself because once they'll get chance to go through, they'll realize that it's easy to collect the data and also quickly you can collect the data and based on the resources which you have. Over.

Christopher Rue

If I could jump in here, Sarah.

Sarah McClung

Go ahead.

Christopher Rue

I think part of the rationale for piloting these assessments was to make sure that they could be feasible to be done in a relatively rapid way in low and middle of country context. I think with each country that the team piloted the assessments, they were improving the efficiency of administering the assessments. Really grateful for Pushpendra and Stephens for their learnings because it built upon the subsequent countries. This is all going to be captured in the Global Guidance Package, and even additional thoughts and learnings that could potentially be applied to make these assessments even more feasible. Over.

Sarah McClung

Great. Thanks so much. There were a couple of questions related to government and policy. For example, from Jose, we have, "How will the results of this research be able to affect the public policies of my country?" Again, I'll just share my reactions to this question, and then we open it up to the team more broadly.

Again, this was a pilot, we're really focusing on the functionality and suitability of the full assessment package. I think just from hearing the descriptions of the individual assessments and how the findings might be illustrated or described, you can get a sense of how they might inform advocacy material. For example, the EPOCH Assessment, that's assessment number six, you would have a sense of the presence of advertisements in a community or in a market itself.

You would be able to make pretty effective case or messaging around whether or not that should be regulated more carefully, for example, to limit advertisements for foods like sugar, sweet, and beverages. Or, if there are opportunities to work with government partners to have government materials increased presence in the communities or in the market so that there's more messaging around things like food safety or even promoting individual healthy food options.

That was my thought on how this might relate to government action or public policy. Any thoughts from the panelists? These ones are tricky, but we had a couple related to just government and policy. Here's another interesting question. This one is also from Jose. It is, "How is climate change affecting the availability of different foods in the market?" I'd be curious, Pushpendra and Ipsos if you have any thoughts related to changes related to climate change.

Pushpendra Mishra

Yes, I think it's a very important and pertinent question. Of course, it is affecting a lot, this is what's happening. We're seeing weather is changing and then, particularly if you take in Nigerian context, what happened due to heavy rainfall. Farmers is struggling, then crops is getting affected because of that. Then because of that, what happens is the supply gets affected in the market.

Yes, it has a lot of bearing on the kind of food items available in the market and also, particularly if you look at seasonality like in a particular season, the kind of quantity which is coming to the market, which is available for the consumer to buy in, those are some effects which we could see in the market happening. Stephens, please feel free to add more on this.

Stephens Igho

Thank you very much, Pushpendra. We are, actually, seeing longer rain periods, periods between the first harvest and the next harvest because of declining rain in some places. Not only in Nigeria, also in some countries, they are, actually, dealing with severe drought because of climate change, which is also affecting the food basket and food supply.

For some parts of Nigeria, even around and within where we did the assessments, there are some communities that, actually, experienced flood, which, actually, impacted on also the food supply and

also distribution within surrounding communities that are dependent on major markets to be able to provide fresh food produce. These, among other things, will impact on, one, the price and affordability of these goods.

In some cases also, we notice that because of the impact of adverse weather, certain food types end up not being as desirable as they should be by the time they get to the market because they are, actually, harvested before rain. We can't rule out the impact of global warming and also climate change when it comes to the food environment. Over to you, Sarah.

Sarah McClung

Thanks, both. We have less than 10 minutes left for this webinar. There's a couple of questions that I'll combine and ask as a group in just a moment. Then after that, I would like to go to each of our speakers and just ask for you to give just a sentence or two, but your takeaways from this presentation and from this webinar, so what would you leave our audience members with? That's just a little bit of a warning. The questions that I'll pull from the QA and combine. We had a couple that were related to different types of food environments. There were two that were related to food environments around schools specifically, and then we had another question about the poor urban population and if the assessment methods would be the same. I will make some comments just in initial reaction, and then I will open it to the panelists to see if you have comments further.

I think that this came through at the beginning when we were describing the pilots. Just to give a little bit more background, we were thinking along the lines of where do feed the future activities, typically, take place. We were immediately going to more rural settings and open-air market specifically, but we learned quickly that there are all different types of food environments and that the assessment methodology might not change that much.

You could use the general methodology in other settings, but this message also came through about how important context is. To make a decision to do it in a different type of setting, you would, definitely, want to be very considerate of the context, how that might change the materials and the methodology, and ask those types of questions before you just introduced this assessment package in another setting.

Those are just my initial reactions. Are there any of my panelists would like to make a comment in response to that? [silence] No worries. We are noting some of the other questions that have come through, many of which are related to when the materials will be available. As I mentioned, we're finalizing that Global Guidance Package that will be complete this fall, but it will be publicly available and we will do our best to ensure that it's disseminated widely.

Just your participation on this webinar probably means that you are on the right listservs, and you will see the notifications for when it is available for use. With that, I'm going to go in the order that we heard our speakers speak in. I'll start with you, Chris. What closing remarks or takeaways would you leave with our audience today?

Christopher Rue

Sure. Thanks, Sarah, and thanks everyone for joining us. I guess my takeaway is that these assessments that we piloted are a contribution to the wealth of emerging tools and assessments around food environments. I know a lot of people on this call are experts in this field or you're working on your own metrics and assessments. We want to collaborate with all of you in the space and as we finalize this global guidance that Sarah was talking about, we will look to connect with you so that we can together advance our learnings around food environments for healthy diets. Over.

Sarah McClung

Thanks, Chris. Teresa.

Teresa Warne

Thanks, Sarah. I think my key takeaway, I want to focus on the data analysis sheets and all of the numerous ways that you can illustrate the data that is collected. What you saw today was just a quick snapshot. There are numerous figures and in fact, each assessment could be its own webinar. I'm super excited for the global materials to come out and for you all to take a further look.

Sarah McClung

Thanks, Teresa. Pushpendra, your final remarks or takeaways?

Pushpendra Mishra

What I believe when we look at food system, of course, it's very complex, and food system also then allows a lot of leverage point. This is one important area which can be used to implement and look at because it's important place where consumer interact. I believe that when the guideline is available people should use it. I can tell that it's easy to use and easy to implement on the ground. Thank you.

Sarah McClung

Thanks, Pushpendra. Stephens?

Stephens Igho

For me, with my experience working with the tools, I want to say it speaks to local context. From a broader perspective, there's similarity across the world and the different markets here has been used. It's very applicable and also it's very useful.

Sarah McClung

Thanks very much, Stephens. I guess, for me, it would just be please continue to watch this space. We're really excited to complete the Global Guidance Package and to get it into the hands of practitioners and programmers who can use it to design food systems programming and use it for routine monitoring purposes where that's useful. But we're really excited to get it finalized and get it out to the world. I'd like to say thank you to our speakers today. Thank you, Chris, Teresa, Pushpendra and Stephens. We really appreciate your time and the thought that you put into, the remarks that you made today. I'd also like to warmly thank our participants. I saw some of the names from our other partners, Miipe in Honduras. Thank you for joining today, and I think that we may or hopefully will be able to share this webinar with our colleagues from Adara in Liberia, and Bridging Peoples and Timor-Leste.
Thank you all for your great questions and your thoughts in the chat, in the QA function, and for giving us 90 minutes of your time today. We look forward to continuing the conversation and also learning about what you're doing related to food environment research and assessment methodology. That's all from us. Thank you so much. I think we can go ahead and close. Thank you again. Bye-bye.

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