The Cost of a Healthy Diet

Published 11 November 2024, with Anna Herforth, Will Masters, Olutayo Adeyemi, and Imran Chiosa

Anna Herforth is a nutrition researcher at Tufts University in Boston. I last spoke to her in March 2021, soon after the FAO published a report on *The Cost and Affordability of Healthy Diets Across and Within Countries*. Anna and her colleagues gathered the data to show that a healthy diet was beyond the reach of almost 3 billion people around the world. Since then, the project has matured into an index that's tracked by the FAO and by the World Bank and that is beginning to have an impact on government policy.

Anna Herforth and her colleagues Will Masters, an agricultural economist at Tufts who leads the food prices for nutrition team, Olutayo Adeyemi, who works with the Ministry of Agriculture and the Ministry of Planning in Nigeria, and Imran Chiosa, Principal Statistician at the National Statistical Office of Malawi and a data analyst for the project, were in Rome a few days ago for a workshop on the cost of a healthy diet.

An opportunity not to be missed, despite the traffic noise. I started by asking Anna Herforth about the origins of their work.

Anna: Originally, so we started back in 2016. We've been working on using food prices for nutrition, and the impetus was looking at how the world defines food security, how the UN defines food security as access by all people at all times to sufficient, safe, nutritious food to meet dietary needs for an active and healthy life. And when you think about what that means, that food security is nutritious food to meet dietary needs, that really wasn't being tracked by the global indicators at the time of hunger and food insecurity experience asked by questionnaires. And so we started with the idea of could we use food prices to understand access to healthy diets? Can people actually go to the market and purchase a diet that is being recommended to consume to meet their dietary needs by food-based dietary guidelines, sets recommendations around what people should eat.

Can they actually do that? Can they actually go to the market and do that?

Jeremy: But is that a question of what's in the market or is it a question of can they buy what's in the market?

Anna: It's both. It's both. But there's a lot of foods in the market. And when you, when people are being advised to eat a certain way, it is a question of doesn't it or does it exist there? And do all the food groups that are recommended — fruits, vegetables, animal sourced foods in addition to the starchy staples? Are they present? but also what's the least cost that they would have to spend to purchase those items and consume them? And can they afford it?

Jeremy: This idea of least cost for a nutritious diet assumes you kind of know what the nutritious diet is, and you go to the market and you want to buy it. So how do you actually calculate the least cost for a nutritious diet?

Will: Yeah. So we have scientific consensus about what is a healthy diet that comes from the convening of nutritional epidemiologists, nutrition scientists who know about biochemistry and the mechanisms of human nutrition to identify what are the vitamins, minerals, macronutrients, protein that are needed in certain proportions for metabolism and lifelong health. So those dietary guidelines are expressed in terms of food groups, nutritionally defined, not defined the way you might for other statistics, but for nutritional statistics. We redefine items into food groups that meet these human needs. So identifying the quantities of each of these nutritional food groups and then matching foods to their composition. To know that if you have a mango in a certain country, how big is that mango? And what is its price per unit of fruit? What is its price per unit of fish? If it's dried fish or a big fish, you'd have very different composition. Some fish have a lot of water, some have less water. So you'd want to be able to match each item to its nutritional composition, and then use these software tools to compute the least expensive way of getting the compounds, the vitamins, minerals, macronutrients that you would need for an active and healthy life.

Jeremy: But the the person at the market buying their diet doesn't do that computation. So is this is this really a way of being able to compare countries?

Will: What we're comparing is food systems, food systems that produce and deliver these foods with their nutritional value or lack of value to people in often very remote places at lean seasons long after harvest. And we're measuring the ability of the food system to actually do that. Now, whether people choose those foods is a separate question, and a big part of our project is to compare what people actually choose with what would be possible to buy. And that helps us to know why people aren't getting a healthy diet. Is it because of high prices? Is it because of low incomes, or is it because of the problem that you can't see, taste, or smell the nutritional composition of food? And this is not something that people necessarily know. So we're trying to bridge these gaps between the cost of delivering the food, the income people have for food, and the ability of people to make food choices that would lead to a lifelong health.

Jeremy: And these three different reasons why people are maybe not buying the most nutritionally adequate diet they could, does it vary from place to place? And what does that ... What are the implications for how to tackle the problems?

Anna: It certainly does vary from place to place. You know, one of the big motivations in looking at access to healthy diets, in terms of the economic cost in the market, is that coming from the field of nutrition, the pat answer to how do you change people's diets for better health is you tell them what to eat and they have to figure it out. What we've discovered is that for 2.8 billion people in the world, that's not going to work. Because if you tell someone that you should have half of the plate in fruits and vegetables and a certain proportion of animal sourced foods and legumes and nuts and seeds to give them the balanced diet in terms of, you know, nutrients and health protective components that they need, those elements of the diet are more expensive than starchy staples, oils and fats and often sugar. And so what we see is that in a lot of places, the poorest people are eating diets that are up to 75 to 80 percent from starches. And we know that that's not going to provide their dietary needs.

And when you try to advise people who have severe income constraints to just add more healthy foods, and you go to the market and you look at the prices, you understand immediately why they can't do that. And so we don't need to just tell people that it's their responsibility to figure out how to get those foods, but actually work with food systems to figure out how we could make all of those

items more available and more affordable. And then in some cases, removing income constraints. And this was what immediately happened in Nigeria when they started measuring this indicator.

Jeremy: What a very nice cue. Thank you. Let's go to Nigeria. What did the numbers reveal about the cost of a nutritious diet in Nigeria?

Tayo: So firstly, the numbers revealed that the cost of nutritious diets are considered low by many people. Like by most policymakers, they look at the numbers and say, oh, is it that low to consume a healthy diet? And they are a little bit skeptical when they see it, because it looks a lot lower than what they spend on food. But then they realise that the baskets are also not the things they would normally eat. But then I think what makes it very striking for them is then when they compare those numbers to income and they realise that even though the numbers are low, like the cost of the healthy diet is low, a lot of people, like a significant proportion of the population, cannot afford those low cost. And it's clear any way you look at it, whether through people's expenditures or through the minimum wage or the average wages that people who work for the government are paid, then you realise that people just cannot afford this low cost. And so it has been a very striking indicator for them because it sort of like emphasises that the malnutrition we have — and we have a lot of it in Nigeria — is that food security is a real issue.

Before, when you say the numbers, people think, oh, okay, maybe they can't eat this kind of food. Or when you say this number of people are poor, they say, oh, maybe they can't buy fancy clothes. But when you give this very low number and you say this is the cost of a healthy diet and you compare it to incomes and you say this many people cannot afford it, then it's clear to them that, okay, there is a problem here.

Jeremy: So having recognised the problem, have they actually ... Has the government of Nigeria actually responded? And are they doing something about it?

Tayo: So one of the things is that the cost of healthy diet has also been increasing since like 2020. And so I mean, inflation has been going up and then the cost of healthy diet has been increasing, but at a much faster rate than inflation. And so there has been a lot of pressure on the government to increase wages. And so the

government says, okay, if we want to increase wages, what should we consider? And so the Bureau of Statistics that calculates the cost of healthy diet, as well as the inflation indicators gave the government the consumer price index as well as the cost of healthy diets to make the decision about where to put wages. And the cost of healthy diet was really a game changer, because when the government first set a minimum wage, then the labor union said, but look, the cost of healthy diets is this amount. And even with this wage you are proposing, it's still going to be very difficult for families to afford a healthy diet and a lot of other basic needs. And so based on the cost of healthy diets, they were able to negotiate for a minimum wage that is more than twice what it used to be. So that happened this year, 2024.

Jeremy: And it's only just happened. What do you what do you think the impact will be overall?

Tayo: So I think it's hard to say. We know that when wages go up, some other things may also ... like other things may go up. So the implementation is just starting I think in a lot of places. It started in maybe August, September. So, we are going to have to wait a while to see what the full impact is going to be, but at least it's ... Important conversations are starting to happen, and we are starting to see policy making in line with true welfare of the people.

Jeremy: So, okay, you put up you put up the minimum wage so people can afford a nutritious diet, and then the price of food goes up.

Will: Yes, there's a big challenge in trying to make sure that food in particular stays at a level that's relatively low compared to things that are needed for other purposes, but that without health you can't take advantage of education, you can't take advantage of other opportunities without health. So this basic need is something that we're able to shine a light on and try to ensure that people orient policies towards lower cost foods.

One big issue is whether the low cost options are, in fact, kept available around the country throughout the year, in contrast to more luxurious options, and one of the big problems is that often decision makers are living in a bit of a bubble, and they tend to focus on nicer foods and being sure that there are apples available, that there are more luxurious products available, and just ensuring that the basics

are present is something that's very important for low income people in particular.

Jeremy: Now that reflects exactly what Tayo was saying about, you know, it being a wake up call when they actually see the numbers. As a general rule, is it more important to increase incomes or decrease the price, or reduce the price, of the more nutritious foods?

Will: The most important fact about this new kind of measurement is that it's new, and that we've only just begun to accumulate enough observations in enough different places to begin to even explain why there's the variation we observe and what the consequences of that variation are. I would say initial indications are that much of the undernutrition in the world is truly due to low incomes, but there is still a lot that's due to the high cost of production and distribution of these nutrient rich foods that are protective against metabolic diseases through the life course and also bring nutrients to avoid micronutrient malnutrition, the vitamin A deficiency, the anaemia that is still very prevalent in the world. And that those ... The costs of those foods can come down quite a bit with agricultural investments. That would matter a lot. But there is this problem of food choice that it's so hard to know what is healthy or isn't healthy when companies are marketing healthful attributes that aren't really healthy and so forth. So we see quite a lot of food choice mattering still. So prices, incomes, and food choice all matter a lot, but it's just early days on understanding how much.

Jeremy: Countries are at different stages of making use of the project and, beginning to, to, to influence policy. So in Malawi, how how has the project influenced what you've been doing in Malawi?

Imran: So, in this project in Malawi, we started last year and we've been doing some analysis using the historical data, and we've got the results. We've conducted one of the stakeholder consultation meetings and where we saw the demand from the stakeholders about this kind of indicator. So we are still in the process of getting these numbers published, as well as to engage the relevant policy holders so that they can promote some of the policies based on the results that we are getting.

Jeremy: My understanding is that Malawi is actually more dependent, more ... There are more smallholder farmers who are sort of subsistence farmers compared to Nigeria. Does it make much of a

difference when people are mostly growing food for themselves and have a small surplus to sell at the market, versus a more market oriented economy for food? Do you think it is a big difference going to show up there?

Imran: I think there is a big difference. But then, you know, in Malawi, the agriculture mostly depends on the rain fed. It's rain-fed agriculture. So the availability, the supply of the food items is seasonal, mostly. And even for those subsistence farmers that purely depend on farming to get their food, sometimes due to the rains and some issues of seasonality, we find that they are not able to consume the food they produce throughout the year. So in a way, they still have to find a way to purchase these food items from the market. And the prices for the food in general is so volatile in Malawi because of these issues of seasonality. We have in the recent past, from around 2019, 2020, we have been having some economic shocks. We recently have the cyclones and most of the fields were washed away when the farmers had already planted their, you know, their crops. So this has forced a lot of farmers to find other means of getting their food. So this is basically from the markets or maybe from, you know, other donors who might come, some relief items and so on. So, yeah. Yeah, Malawi is mostly ... People produce their own food. But then due to these economic shocks, we still need to also get these foods from the market.

Anna: I wanted to add something based on what you're saying about seasonality. This illustrates exactly why it's important that countries are also calculating this indicator of cost of a healthy diet within the country, because the organisation, the the national statistical organisation where Imran is working with the price data, is collecting prices in all the seasons. Every month, they're collecting new prices so they can see what's happening over the year in different seasons, in different parts of the country. Who can't access a healthy diet in the market, when and where. And this is something that in the global monitoring of this indicator, we can't see. FAO tracks this indicator annually for every country, but the level of data that's available is at national level — you can't see within a country what's happening — and for the entire year, so you can't see what's happening seasonally. And so for these kinds of potential informing potential policy actions or programmatic responses, the data that Imran's organisation is constantly dealing with is the data that will show when and where the problem is.

Jeremy: And is that the same in Nigeria? Are you collecting data monthly from every region?

Tayo: Yes. So the National Bureau of Statistics collects data for rural and urban for 36 states as well as the Federal Capital Territory. So 37 locations, and this is collected monthly. And the cost of healthy diet is calculated monthly for these 37 strata. So it helps them to see where costs are high and where they are low. And so we're trying to understand better what might be the reason for the differences.

Jeremy: That sounds like something all countries should be doing.

Anna: Well, they are. And that's why this project is leveraging what already exists. So not every country is calculating the cost of a healthy diet. These are, Nigeria and Malawi are, two, you know, pioneering countries in that regard. But all countries are collecting monthly prices for their consumer price index. And so the beauty of the indicator is that there's no new data collection that needs to happen. The data is already there in all countries, which food prices are a very important part of inflation monitoring. So the food prices are already there. It's a matter of analysing those prices to understand the cost of a healthy diet that consumers are facing in the market.

Jeremy: This sounds so easy and so efficient. Can you just give them a software package and they find out what their cost of a healthy diet is.

Imran: Yeah, exactly. So as Anna said, we are already collecting this kind of data. So there is no additional effort in collecting the data we already have that we are using for the CPI computation. So the Food Price for Nutrition project developed some tools, some metrics that have been standardised. And we are using these tools, you know, just to customise them so that we can use for our case, like for Malawi, make sure that we organise our data and feed the data into that system. And already the system has the formulas built. So once you update the numbers, you customise your data to fit into this, once we do all these processes, we feed the data into the system. We feed the ... We do the food matching and yes, yeah, we have the numbers automatically.

Jeremy: And are lots of countries coming to you for advice as to how they should do this?

Imran: Not yet. Maybe Nigeria, because they are already advanced. But yeah, we ... since we are one of the pioneering countries in this project, we are ready to assist whatever country wants to be part of this project.

Jeremy: Will, let me ask you ... I last spoke to Anna in 2021 when the first big tranche of data came out, I think. Let's do time travel, go forward ten years. What has happened to the cost of a nutritional diet.

Will: So we certainly hope, we believe, and I think it is truly possible that in ten years there would be, first of all, global development goals that specify each person should actually have access to a healthy diet that meets the national dietary guidelines of their country, and that those goals get acted upon in ways that begin with measurement, that continue through interpretation and use of the data to guide investments in agriculture, which currently do not focus on these healthier foods and certainly do not focus on the low cost versions of the food. People who are agriculturalists want farmers to become richer, so they tend to focus on the needs of richer customers, and the low cost options are often neglected. Also, fruits and vegetables are often neglected. Simple dairy products — the low cost yogurts — are often neglected. And when we shine a light on them, we can see that there are opportunities to meet the needs of the large majority of people who currently are often neglected, because for each customer, it's a relatively low income. But with identifying the need, the opportunity, we think we can actually achieve this goal. If we identify it, we measure it and communicate clearly what's at stake.

Jeremy: It seems to be, from what I've heard, that the project is kind of running along smoothly. It needs to be taken up in more detail by some, by some places, many places. But basically gathering the data, analysing the data, the kinds of recommendations you might get out of the data — that seems to be chugging along. So what now?

Anna: Well, what started as a project has become a global indicator. So it has moved out of the phase of really being called a project at this point. It's a global indicator that's tracked by the United Nations Food and Agriculture Organization, with key data inputs from the World Bank. And these two institutions are publishing the indicator for all countries around the world every year. And this information has changed the discourse on what's talked about in terms of access

to food. It's not just access to calories. It's not just the poor need more starchy staples. It's everyone needs access to healthy diets. And so that has become embedded in the discourse about food as far as countries own data systems and practices. This is, I think, the next frontier, of moving the conversation and the potential actions into countries, and what has happened in Nigeria and Malawi and some other countries who have come together here in Rome to share experiences, illustrates how that's starting to happen. And the next step, I think, there does need to be kind of a global system where the support to use the software tools that Imran was referring to, to analyze the data and, you know, the use of the data within countries, is ... That's the next step is to facilitate that process within countries around the world, which has only just begun.

Jeremy: Just one thing. I mean, the SDGs, the Sustainable Development Goals. We're at, what, six years, five years away from ... Some of them will happen. Some of them won't happen. Is the cost of a nutritious diet, is that the next big ... Is that the next big global goal? Is that the one for 2040?

Will: We certainly believe that this is the kind of goal that governments can embrace. It's something that is achievable. All of humanity is about setting aspirational goals for ourselves, individually, our families. This is an aspirational goal. We're not there yet, but it is something that can be done. So I certainly believe that governments can come around to seeing this as a measurable goal that is achievable, that is aspirational — because we're not there yet — and that could be a successor, a part of the successor development goals, whatever they might be after 2030. Things that could be done in this these coming decades.

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