

10 Nutrition Baseline Surveys in Africa & Asia—Results, Interpretations, Recommendations

Presentation of Results by Gina Kennedy

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Gina Kennedy: I really tried to pair it down. So I hope it is not disappointing to some of you, because there are so many data and it is hard to synthesise and summarise. Maybe not all the audience has the same starting point. Some of us are more technical and some less. I hope it right it is the right balance of detail and synthesis.

We start with one slide of survey method. Then discuss the country overview. Definitions of key indicators which I will dwell on a little bit, because I think it is important that people understand what the indicators are. How they are collected and what they mean. Then results. At first, we are looking at the key indicators and analyse them a bit. Then we go thru the Unicef conceptual framework. To put into context all the rest of the indicators that were collected.

0:59

We have started to look at the raw data which is a huge undertaking. There is some preliminary results from looking at the raw data -- to see in terms of the two indicators of individual dietary diversity score for women or minimum dietary diversity score for women, as well as the minimum acceptable diet for children -- to look at we are some of the more significant factors in terms of the baseline study. That will be a final result slide and then I provide some conclusions and recommendations.

1:32

In terms of the survey methods, there was a meeting last year in which the teams got together to talk about what the methodology and indicators would be, to have a standardised approach to the collection. Which was an excellent way to proceed, trying to collect standardised information across such a wide range of country and programme contexts. There is a guideline that informs the sample size calculation and the methodology for collection of the indicators, for how you build your sampling frame and select your sample. This is very synthesised from that guidance. Dr Sesay was the one who prepared, if we have questions, she is there to help. The sample size calculation was 347 and in all of the NBS -- I have to apologise for acronyms. ... You will see NBS a few times. It means nutrition baseline survey.

2:38

So NBS is nutrition baseline survey and in the NBS the sample size range from 396 to 487. With the exception of India, very populous country, that sample size was 800.

What is super interesting from a researcher perspective is that there is data on 4700 woman-child pairs. This represents a large body of data that people that are interested in different research questions around agriculture, nutrition, health and care linkages will be very excited. It represents a lot of work. GIZ is to be commended for this data set.

The selections criteria for the respondent was that the woman of reproductive age - the acronym is WRA. That is a woman of 15-49 years and she had to have a child of 6-23 months of age. The reason for selecting this is to be able to conform to the standard indicators that have been recommended by the UN. So there is certain standard indicators. The program took the decision to follow those. So those age ranges and some methodologies are set... 1000 days is what the World Bank has been promoting for a decade. Malnutrition, changes in height for age of the child called stunting, or changes in weight for age of the child, called underweight - they really dramatically fall during this period of 6-23 months.

Why is that? The child is introduced to complementary feeding. Which is foods other than breastmilk. It is ideal that the child continues to breastfeed - but also what happens in the development of a child - we have on in the back there - they start to crawl, get their hands dirty, put fingers in their mouth. They are exposed to a lot of disease as well. There are a lot of factors that lead to that period being a very critical and vulnerable period. A lot of nutritionists focus on this period. And also for reasons of reproductive health - women are the ones whose nutrition status in pregnancy and lactation is quite important for the health of the infant. But as well also for the indicator of minimum dietary diversity for women. ... What I have heard, also the woman is just a vulnerable member of the household, also is a good point of focus for us, when we are looking at how to improve nutrition. So even just focus on the woman is a good focus because we know they suffer a lot from anaemia. It is good to have these benchmark data: what is happening with the woman and her diet? What is happening with the child who we know from numerous studies, very vulnerable period in life? If you don't grow up properly during that period, you can be set back developmentally as well as your economic potential. It really has huge impact. So it is really great that the OneWorld-NoHunger programme has decided to take on nutrition.

6:18

.... this is just a country overview. I think it is clear now that there are 11 countries in the OneWorld-NoHunger programme for Food and Nutrition security. The nutrition baseline surveys were done on ten. This shows how the fall within Africa. 4 countries in western Africa: Mali, Burkina Faso, Togo and Benin. 2 in eastern Africa: Ethiopia and Kenya. 2 in southern Africa: Zambia, Malawi. ... Have a look at the GDP per capita which is an economic indicator. But what is important here is the stunting level. So stunting is a nutrition indicator it is based on the height for age of the child and it is measured generally on children under 5. These data don't come from the baselines. They come from other surveys and the database on child growth of the WHO... What is important to think about is that there is a threshold for prevalence of stunting. If it is above 40% then it is considered a severe public health problem. So you see easily that many of these countries are above or close to that threshold of stunting - one of the anthropometric indicators that is important for the SDGs.

8:02

The two countries in Asia are India and Cambodia. Generally, economic growth has been quite high in India but we call it the India conundrum, because stunting is very high still. 48%. So what is going on there? It is great that these baselines can maybe shed some light on those questions. As well in Cambodia, 41%. So these are areas where they still have high levels of stunting even though economically they might be succeeding more.

8:35

I want to talk about the definition of key indicators. What is really exciting about this data set, is that these are 3 food-based indicators and so the ties between agriculture interventions, that you are trying to implement, and education interventions about how to teach households to consume better food, how nutrition interventions are going to play out to succeed, with these indicators is important. I think it is the first time that any data have been collected in such a wide range of countries, with a robust sample size for the purposes also of monitoring development projects to improve food and nutrition security that had used this combination of these 3 indicators. That is something really unique about this data set. ...

Some of the indicators are new. So it is also really good for the UN organisations that are advocating these indicators, to see how they work. It is like a nice case study of how it is going to work in the end, how these indicators function vis-a-vis each other but also vis-a-vis the program interventions.

9:50

The first indicator is about women and their dietary diversity. There is two ways. it is the same method of data collection but you can analyse that information in two ways. One is the individual dietary diversity score, which is an average, and the other is the minimum dietary diversity, which is a prevalence based on a threshold.

The minimum acceptable diet is composed of two parts. .. And the food security experience scale measured at household level but keeping in mind reported by the woman who is responding on behalf of her experiences and her feelings about her household.

There are three great food based dietary indicators. It is the first time that we have seen them all in a baseline survey.

Couple slides on definitions, so we are all on the same page.

The individual dietary diversity score for women is the sum of ten food groups

10:51

It is which food groups women consumed over the past 24 hours. The IDDS or individual dietary diversity score is an average. So you see the results as 3.1 or 3.5 food groups.

The minimum dietary diversity for women is a relatively new indicator. There is guidelines that describe detailed how to collect this indicator. It is the proportion of women 15-49 years of age from at least 5 out of 10 defined food groups.

What is nice about this one particularly for policy and advocacy is that you get a prevalence. So you get a prevalence of women who are above minimum dietary diversity. That means that had to consume five out of ten standardised food groups.

What does that mean nutritionally? - We have done a lot of validation studies. The women who meet that bar, they consume 5 or more food groups out of these ten, they have a better probability of meeting their micronutrient adequacy. Okay, there should be more sufficient intakes of vitamin A, iron, zinc and a range of 11 micronutrients that were part of the validation study.

Just to give an idea, because sometimes it might not be so clear what we talk about in nutrition when we talk about food groups. These are the ten food groups that form both the average score, for the IDDS, as well as form the cut-point of 5 out of 10 food groups.

So you can see that the first food group is staple foods basically. Grains, white roots and tubers, plantains. The second is pulses, beans and lentils. Third is nuts and seeds. Groundnut is an important food in a lot of countries in Africa.

Dairy, includes yoghurt as well as milk. Meat, poultry and fish. Eggs, dark green leafy vegetables, other vitamin A rich fruits and vegetables, other vegetables and other fruits.

What is important to see here is it is unique in that it does not include food that do not have micronutrient significance in the diet. You don't see coffee and tea. We might want to know about coffee and tea consumption but it doesn't go into this indicator. Because that would dilute what we are trying to measure which is micronutrient adequacy. As well you don't see sugar and other things like that.

13:13

The concept for the indicators for children is also very similar. We start with the umbrella indicator which is minimum acceptable diet. That is the proportion of children 6-23 months of age who receive the minimum acceptable diet.

13:33

Minimum dietary diversity is a proportion of children 6-23 months of age who receive four or more food groups out of seven. You know it right away. The food groups are different. This is important to keep in mind. Particularly if you are trying to do direct comparison between women. Doesn't work so well. The interpretation is important though. It is a proxy for micronutrient density of food and liquids other than breast milk. So they all have a nutritional meaning behind them. In this case, they were validated by WHO and Unicef.

Minimum meal frequency is the proportion of children breastfed and non-breastfed who receive solid, semi-solid or soft food, minimum times per day or more. That was really important because of this very special age range, the children have a small stomach capacity. The gastro capacity is quite limited. So if you are taking care of the child, assume that the child can fill up at breakfast, lunch and dinner, you are going to get it wrong. Because it just cannot eat that much. Now you are going to eat four or five times a day, including being breastfed. That is why we have that one of minimum meal frequency. it is different than for adults. And it is a proxy for energy intake from foods other than breastmilk.

14:49

The newest indicator that is part of this food-based indicators in the baselines is called the Food Insecurity Experience Scale. The H is to denote at household. FAO has undertaken a lot of work on this

indicator. They just got results from a big Gallup poll in over a 140 countries where they looked at the food insecurity experience of individuals. But it is also very valid to look at households. This is what was done in this baseline. Two important indicators come out of this.

One is the Prevalence of Experienced Food Insecurity at moderate or severe levels and two is Prevalence of Experienced Food Insecurity at severe levels. What is the interpretation? It is the estimates of the proportion of the population facing difficulties in accessing food. And, of course, we are then only looking at moderate and severe food insecurity. Maybe people are less familiar with this. Why it is called an experience scale, is because it is based on the experience of the respondent.

So for example, the woman who was responding in these 4000 households would have been asked: During the last 4 weeks, was there a time when: You or others in your household worried you would run out of food because of a lack of money or other resources?

It gets progressively worse. The fourth question is: You or others in your household had to skip a meal because there was not enough money or other resources to get food?

And the last ones are really severe. Was there a time when you or others in your household were hungry but did not eat because there was not enough money or other resources for food?

And was there a time when you or others in your household went without eating for a whole day because of a lack of money?

Michael already alluded to this. Obviously, you don't just take these questions and translate them and hope for the best. You really have to do a lot of focus group interviews. What does hungry mean? What does a meal mean? So that you really get a good nuanced translation. I think there are a lot of assurances that that was done by the survey teams. It is great to have that indicator also as part of the baselines.

Finally, coming to the results. The team decided to structure the results.

17:17

It is an innovative and good way to think of the results. Using the Unicef conceptual framework. It is a framework that shows the underlying and immediate causes of nutritional status that lead to malnutrition. At the very bottom, you have the pillars. I am only going to present a few of them. The bottom pillar are things like female education. But also the sociopolitical, economic condition and infrastructure of the country. Then really the underlying causes are really what this baseline hones in on. There is three. In shorthand, you can think of them as food, care and health. Under food we have availability and access to food. There is quite a few of these indicators in the survey. There is land access. There is number of crops that are grown. Crop diversity. There is whether you are doing home gardening or not. There is whether or not you are keeping livestock. There is whether you have access to fruits. Sometimes in some surveys, they chose to add questions about seasonality. In which season are you accessing fruits? Are you using fruits mainly for your own consumption? Mainly for sale. For both. So there are a lot of nuanced differences. That is the other thing. In each of the baselines, some of them chose to focus on one ore the type of indicator. That is also interesting. That they had flexibility to add points of interest, but maintaining the standardisation of certain of the key indicators.

In terms of the care environment, it was both the mothers' own knowledge. So the mother's knowledge primarily of how to feed the child and take care of the child during illness. But also very interestingly and one of the first times I have seen this in baselines, was whether or not there was not there was a nutrition counselling structure in the village. And whether or not the mother had received any nutrition counselling.

The health services were really focussing on how hygiene. Does the household have soap? And if they do have soap, when do they use it? Handwashing behaviours. And also some of these larger infrastructure issues such as access to improved sanitation and access to improved water. The immediate causes that will lead to nutritional status are your food intake - so that is covered as well - and health status.

So in terms of health status, the indicators mainly collected prevalence of diarrhoea. ...

20:05

Myself and others that work with this set of data have been struggling of how to present in a summarised way that can make sense to an audience. In some cases, I peer-reviewed this method, but now you are really the first audience to have a look at how it really works.

It is a dashboard method.

20:24

None of the cut points are statistically significant. That is really something that you need to try and understand. Because for minimum dietary diversity of women the threshold of five out of ten food groups, that is a really significant cut point. These cut points here, the prevalence being between 0 and 32%, or 33-66%, or 67-100%. That is really only to help give us a visual. When we think about a stop light. Oh red, I need to stop, because something here is really not too good. Yellow, let's move with caution. Green would be that is better. Certainly, it is not to make the point, if you see a green cell, that that community or that indicator is okay. It is really just to summarise these ten countries and numerous indicators a little bit for you... It is not a statistically meaningful cut points. It is only for visual categorization of the prevalence levels.

So boom, finally, here we go.

21:33

We have the food insecurity experience scale, household level, moderate plus severe. The minimum acceptable diet and the minimum dietary diversity of women. It goes according to those households experiencing the most moderate plus severe food insecurity. Highest down to least experience of food insecurity.

At the top we see Kenya. Kenya has 87% of the households that said that they experienced food insecurity. Moderate or severe. And these - I should say - have been globally standardised.

The number you see here have undergone a very rigorous validation process where each item (8 questions is considered an item) has gone through a rash model where whether or not the response made sense, was really analysed according to 4 different statistical cut points. Eventually it came to the best configuration of food insecurity experience for each of these countries. It is very context specific and then it was recalibrated to meet the global standards of the FAO food insecurity experience scale. Also note when you pick up you nutrition baseline surveys, you could see some different figures. That is not a mistake. It is that these have been subjected to the global standard which changes them a bit. And these in the nutrition baseline have not.

... If we look at Kenya, we see that things look very red. Not too good for any of the indicators. If we look at Malawi, it is not very good for their experience of food insecurity but with minimum acceptable diet and minimum dietary diversity, they are in the middle a little bit. Some caution but it is above 33%.

In Mali we have 55% of households experiencing food insecurity, of moderate or severe level. Only 11% of infants have minimum acceptable diet. Only 8% of women met the threshold for minimum dietary diversity.

It is tough to make a summary of ten countries and also tell context-specific stories. The goal for the program is to have achievements in minimum acceptable diet and minimum dietary diversity for women. But how you get there is context-specific. It depends on the country.

I have a friend whose mother has the goal to gather the family for Sunday lunch. How she gets there is: she makes a vegetarian meal. One meal for the one who loves salmon. One meal for the one who loves roast beef. She makes for meals in one to achieve her goal.

24:48

It is bit the same with looking at these. We have a goal. These indicators should improve. The way to get there is going to take context-specific work with the data. I don't want to make it overly simplistic. That is why we look at India. What is going on there? They don't respond to the food insecurity experience scale. Do I feel confident that this is probably a good reflection of how they felt about it? Yes, because it went through rigorous testing. If the item did not fit, it was removed. To get the best result.

18% of the population in India felt that they were moderately or severely food insecure. However, minimum acceptable diet was met by 18%. Minimum dietary diversity by women was met by 20%. Here we have this example of having the same goal but different ways to reach it.

There is difference of opinion for India. Is it possible that the public distribution system helps people? Even if it is not implemented well. ... Maybe they feel that they can get that service if they need it. ... There are these different contextual factors that are important.

26:15

Think back to the Unicef conceptual framework. We are trying to go through the basic, underlying and immediate causes.

One of the basic factors is female education. This was a question in the baseline: What is the highest level of education you ever attended? The response would be: none, primary school, secondary school or I did pass secondary school. This reflects anyone who did primary school, even if it was only for one year. The prevalence of "no schooling", "some school" then you can take the opposite. In Benin, 80% of women have no schooling. In Burkina, 34% had some school. You can see the differentiation, the yellow to the green.

Fascinating that in Kenya they all reported to have gone to school.

2 important points. 1) Vary vast range, 20-100% of women having some education. To put it into contexts for international benchmarks. The MDGs ended in 2015. The goal for primary school attendance at that point was to have 60% of children enrolled in primary school.

27:57

Extrapolation. Average age of the survey is 25. In 2000 they were 15 years younger. That shows where we came to with that goal. You wanted to see was 60%. What you do see is that quite a few countries are falling short. Even in this baseline survey. But keep in mind it was the woman, 15-49, responding. Just to give an idea.

Important to set the scene: a lot of countries programmes are working on behaviour change communication. They want to work with groups of families, to improve the knowledge of how to feed the kids and how to take care of ill children. If you have 20% of women who went to school, you have to be careful about your type of message and media to use to reach them. It is a good opportunity to think about these things, as the project managers come next week. What do we know about how to reach populations at variable stages of education?

29:18

This is about: do you have access to land. Most of the populations do have access to land. It is a big boost because then you can plan on planting more fruit trees, home gardening, integrated homestead - food production system, that involves livestock, small poultry, ruminants, chickens, fruits and vegetables. It is striking here: Kenya has a very disenfranchised population, pastoral and agro-pastoral with no access to land. If it is part of your strategy to promote home gardening, we have to think how to do that.

These are the primary crops grown. And the average crops. I put this up because large parts of the focus is working on food security and agriculture-nutrition linkages. It is interesting to see what the households are growing. Staple grains, mostly both for sale and own consumption.

30:45

Legume. In Kenya, 74% are growing pulses. In Malawi and Zambia groundnuts. These are giving you entry points to see: they are growing it. Are the women and kids eating it. If not, let me investigate, why not.

There is also a large series of questions on home gardening, access to fruit and livestock.

31:08

I just give the bullet points. The final report will summarise all the figures.

In India, Kenya and Togo, 20% or fewer had home gardens. For the programme managers to think of how to do the interventions.

One third or fewer had access to fruit. In Ethiopia, India, Kenya and Mali. Interesting: 50% or fewer keep livestock, except for Malawi.

31:52

This is to show you the moderate and severe food insecurity experience scale as compared to the severe food insecurity experience scale. Keeping in mind what is nice about this project. These are very new indicators... Hopefully this is a starting point. Obviously the goal for that is to improve. We have a looked enough at Kenya and Mali having high both moderate and high levels. Whereas Ethiopia, Burkina and India are not feeling as much moderate and severe food insecurity. ... Interesting context: These results from Ethiopia. They don't feel food insecure. But they have one of the lowest dietary diversity. Why is that?

33:08

Moving on in the Unicef framework. Let's briefly talk about health. I chose to take the big indicators: access to adequate sanitation and access to safe drinking water. Super interesting when thinking about the baseline: they looked at access to water in two seasons. Dry and wet. Bringing interesting results, depending on the country. There are two bars that are important. Going back to the MDGs of 2015. The goal then was 74% of the population in sub-Saharan Africa have access to safe water. The top bar shows: many countries are achieving it. Even the MDG Report said, there was great progress with safe water. Whereas the bar on access to safe sanitation (red) shows for the goal to have 62% was not nearly achieved. ... So there is still some way to go with sanitation. In nearly every project's context, you are far away from that goal. In Kenya, Togo where you see large difference by season - that could be something that you might want to bring up with national stakeholders.

35:10

There lots of care questions, including "How do you care for the child when they have diarrhoea and is that care adequate?" The primary indicators are about the diversification of the diet for the women and child, and about minimum meal frequency. Therefore I took these two questions. The way that the questions were asked in the baseline surveys to the mother was: "What should we do to prevent malnutrition in children?" And then the mother got to respond, and then the enumerator got to code her responses based on what she said. You see the percent of women who responded that we should give diverse food each day - it was unprompted, she said it spontaneously - and, we should feed the child more frequently.

This should be an indication to you that that mother has had some education at some point in time. We do not know who it is from: health worker or grandmother or aunt or reading/hearing a message on the radio, that these are important things to do and that she can repeat these messages. What is interesting is what is happening in Kenya and Ethiopia: the mothers have high knowledge that it is important both to diversify and, in Kenya a little bit less so, to feed frequently. But in Ethiopia, they know it's important both to diversify and feed frequently, but they are not practicing it. Minimum acceptable diet is low and they know it, but they are not able to practice it.

36:49

That's a little bit different than the patterns we see in all the other countries. In India, Benin, Togo, Malawi, Zambia, Burkina Faso, Cambodia, the blue bar - Minimum Acceptable Diet - is following a similar pattern as to the "Gives Diverse Food Each Day" and "Feed Frequently, The Knowledge of the Mother." Two important things: One) Explore what is happening in Kenya and Ethiopia, and the other) From these baseline results, this big focus the program will have on behaviour change communication could have a likely effect on "Minimal Acceptable Diet," because how we see the patterns are quite similar. It is quite important to look at the channel of communication that you're going to pass the messages through.

37:49

We get to the "Individual Dietary Diversity Score - Women." Again, that's the average, the average number of food groups consumed out of ten food groups. It is going from Ethiopia, which is the lowest "Individual Dietary Diversity Score for Women," to Zambia, which was the highest. 3.1, means on average, women were consuming 3.1 food groups. And when we look at Minimum Dietary Diversity for Women, we see that 7% of women made the threshold for IDDS-W, which is five groups out of ten. You can see how the two indicators look in comparison to each other: a range of 3.1 - 4.7, and the range of MDD-W from 6.8 to 57%. I found the results to be pretty consistent, except in Cambodia, where the MDD was higher than I would expect looking at that average. We need to look at distribution and at the food groups that are being eaten.

39:08

Looking at this slide of "Dietary Intake of Children," this is comparing the umbrella indicator of "Minimum Acceptable Diet" to "Minimum Dietary Diversity" and "Minimum Meal Frequency." What jumps out from observing the patterns, is that "Minimum Meal Frequency" is higher in every country context than "Minimum Dietary Diversity." Focusing on messages and behaviours around changing diversification practices is very important if you want to influence MAD. MAD is not going to change unless you change both of the indicators that are restricting meeting "Minimum Acceptable Diet." In this case, it seems that Dietary Diversity must be worked on because it is much lower.

In terms of breastfeeding, the age of the child is important. Children in the youngest age group, 6-11 months, have even less dietary diversity than the older children. It's quite logic, because as a mother when you are starting to feed your child you are cautious and may be afraid to feed too many different foods at once. We definitely see in that age group, 6-11 months, that that dietary diversity is even lower. It would be important to analyze the data for each country context by those factors.

40:42

We did get the raw data sets that was fantastic and yet so much work. Some of the data sets were French, and some were in English. Some of the variable names were in French, and some of the variable names were in English. And to run anything that is standardized, you have to make all the variable names consistent. And I do have to say that these are preliminary results.

41:13

With preliminary results, we do know the hypothesis we want to test: The first is that women's dietary diversity could be measured by the average, or the threshold, of 'Minimum Dietary Diversity for Women,' will be "higher for households with a more diverse agricultural production pattern and better knowledge of adequate nutrition." And the same thing for children: The minimum acceptable diet will be higher in those households that have more diverse agricultural production and higher level of nutrition knowledge. This is what we assumed would be the findings.

41:55

When we looked at the dietary diversity for women, we were happy to see that in nine out of the ten countries, there was at least one and a maximum of three agricultural variables that were significant. Country context is important; it will differ by the country which of the variables came to be significant. It could be crop diversity came to be significant. It's the dichotomous variable: You had a home garden, you didn't have a home garden. Dichotomous variable: You had access to fruit, you didn't have access to fruit. And then some more complicated: You produced vegetables year-round versus one season when it's raining and you can irrigate; a number of vegetable diversity and fruit diversity accessible (which is

only available in a few of the baselines). These are preliminary, but it is to give an idea of the potential of the data-sets for future analysis.

43:06

Nutrition counselling was significant, but not in all countries. Other significant predictors: Achieving secondary education, and this would be a small sample size; geographic location or the district that you came from had huge differences by district in the surveys; ethnicity and higher income were better predictors for dietary diversity for women. For children, agriculture factors were not as predictive; only five out of ten countries was there one, and a maximum of two of these agriculture variables that were significant...The age of the child for minimum acceptable diet is important. Look at the data carefully. You need to start early for when the mothers start making porridge, how can we enrich the porridge with foods you're comfortable adding? Or snacks you're comfortable giving? Like nutrient dense fruits, some ground nuts or some sweet potato. How can we work on things that are comfortable for women to give? Foods that are affordable and feasible for them to give to children six to eleven months of age? Otherwise your "MAD" will have the difficulty to improve.

44:54

Breastfeeding status, most of us who work in nutrition know that needs to be continuously a message. We should never have a message that at six months of age you can start to feed the child food. Breastfeeding status is extremely important, through 23 months of age.

45:19

Under five child clinic visits also had a positively significant impact, as well as district. Some districts are more disenfranchised, meaning you're at a different agricultural/ecological zone, you're a different ethnicity, you're a different religion. These were significant predictors.

In conclusion, we're happy that these results seem to confirm the hypothesis of relationship between agricultural production - not just yield, but thinking about diversity through home gardens, fruit production, and accessible livestock as food for women and children to consume - are particularly important for women's dietary diversity. To see change in the Minimal Acceptable Diet indicator we need to focus a more on the youngest age of children, on breastfeeding and agricultural diversity.

46:29

I was asked to draw conclusions, and it is very clear that the areas chosen by the program are very vulnerable. They are areas with either both high food insecurity and low dietary diversity of women and children, or some outliers like Ethiopia or India where they have less food insecurity but their dietary diversity is not good. Focusing on dietary diversity and Minimum Accessible Diet of women and children seems appropriate.

The program interventions on agriculture of agricultural inputs and diversification, might need to be tweaked a little bit to focus on the diversification of the production system. Strategies also include agricultural extension, health extensions, behaviour communication change with the mothers through cooking groups or women's groups.

47:39

Finally, multi-sectoral support is important. Scaling up nutrition bodies, support to multi-sectoral committees at district level. And, when we think about Impact Pathways, I think they could be quite plausible with a package of interventions to meet the objectives of the program.

48:05

I have some general recommendations for you to think about. One to consider is that we learn from other programs of a similar nature. For example, the rain study which is realigning agriculture for improved nutrition in Zambia. This study shows that we not only need to have a baseline and an end-line, and consider "What happened at 'time A,' we did some interventions and now we're at 'time B.'" But, that what happens in between is important. What they found in that impact evaluation was that the number of times the woman goes or the family goes, the number of messages they receive, the frequency and intensity of interventions, is important. This component is often missed out. There might be a disconnect between the people who create the baseline and two years later create the end-line, and the people on the ground who implement the project. It is important to ask questions like, "Which woman is coming? How often is she coming? And how many messages is she receiving? Through which channels? Which activities is she participating in?" If you don't have these questions ready in the beginning, so they are not unknown at the end.

49:20

In terms of availability and access to food, own production was a very big focus in the baseline surveys. We do not, however, know anything about the populations' access to markets, and how they use that as a strategy for their food security or diversity. Seasonal fluctuations are important to know to influence dietary diversity. It was interesting to see seasonal access to water, but also access to other foods would be interesting to know by season.

There was a divergence between households that claim to have access to fruits and vegetables through wild collection of fruits, or having fruits at homestead, or having a home garden where they grew vegetables, and their actual intakes. What is going on there? Why do we have access to fruit, but why are we not eating it? Neither the woman nor the child.

50:15

In terms of the care pillar, country specific qualitative data is needed. This happened particularly in Ethiopia and Kenya, where they had the knowledge, but they did not meet the practice. Most of the knowledge questions were based upon the maternal recall of these general topics. I just ask you, "Please tell me ways to prevent a child from becoming malnourished." And you free recall what you think. But, I think for the projects if you are giving specific messages, particularly if you decide on one topic. For example, you say "We have a large ground nut production, and we are focusing on enriching child's porridge with ground nut," I would be much more specific. You should ask questions to mothers like, "Did you hear the message that you are to fortify porridge with ground nut? Yes or no? Did you practice that? Yes or no?" I would try to get more specific about how I ask my questions.

A lot of the programs mention they do direct behaviour communication change through women's groups, women's cooking classes or positive deviance types of groups. These are all good formats for passing on messages. Other groups will train health or agriculture extension, and hopefully health and agriculture extension passes along the message and that makes a difference. Others wanted to use TV, Radio or theatre. It is important to consider the different channels of communication, and how the messages were taken up and which was most effective.

51:52

Lastly, in terms of health and WASH, there were lots of household data on hygiene, diarrhoea prevalence, and how a woman takes care of a child with diarrhoea. But, what struck me when I looked at this data, was the very low access to safe sanitation. Of course, household sanitation can improve, but if a population does not have access to toilets and they're using the bush instead, it is going to be tough to pull up your health conditions in general. When you go and present at that national level, you might

say "Access to sanitation might not be the focus of this GIZ project, but this is a very important issue for the communities."

Thank you very much for a very comprehensive, dense yet exciting presentation of the results from those 10 baseline surveys. And for keeping time.

Where are coming from? The baselines had been completed. Those results were final. The task you have taken up with your team was to synthesise and validate, and to put into international context and to look for consistency, the interesting bits, where is it not consistent and why, and how could it inform the program in terms of implementation

I think this is a mission accomplished by this presentation today. Yet, we know the collaboration of GIZ and Bioersity International is ongoing and I can't help to be fascinated, looking forward to hear more in form of the written report. Probably even a research publication coming out of this meta-analysis.

Just remind us on two questions that are of particular importance to the Global Program. I know a lot of you might have technical or detailed questions on data and on how the baselines were done. I think Gina already mentioned that we have Dr Sessay here from University of Giessen, who can answer questions on technical and methodological aspects. However I think the Global Program coordination unit is very interested in not only answering comprehensive questions on the methodology and approach but on the way forward and taking these main results we have heard about and turning them into a way forward on how to proceed at implementation.

Gina has talked about that it has to be looked at country-specific and country package and the programmes to implementing. This is where we would want at least in the run-up of the discussion, I would like to frame the discussion a bit towards these practical recommendations you had given at the end of your presentation.

I would like four resource persons to the front. Gina Kennedy, Michael Lossner - Programme Director of the Global Programme - and Markolf Maczek, who is doing the monitoring. Please join me here in front. And last but not least, Dr Sessay from the Institute of Nutritional Sciences.

55:18

Q&A:

Q1 Anton Mangstl: I have two questions. One is about the methodology: the data you have collected is very much of qualitative nature. And so, I think it must be quite difficult to do statistical analysis and do the testing to verify the data, because if you want to use this data you need a strong baseline. And my second question, are you planning to do the survey again in the same countries, at the later stage to gain more data to even have a more solid base? And the possibility to check what you have learned now? And what would be the difference from now?

Q2: Aimee Hampel: I have three questions. I noticed there is a lot of conflicting information with regards to the findings. If we have, for example, a green for the FIES and at the same time in the same country a red for the MDD, and it happened not only once, but several times. For example, in Ethiopia, they had the lowest MDD and MAD, but better results than expected. Could you give a little information into the context so that these conflicting findings could be explained? The second question, is about the hypothesis: I saw that there were only two hypotheses were tested and FIES was not tested. Do you have plans to also test FIES among hypotheses? The third one is about policy recommendations. When I look at the findings, we talk about the best results if they would have homestead, they would have vegetable diversity and home gardens. It seems that the policy approach would be "small is beautiful

approach," each having small farms, which is the case in Africa. I know that agriculture intensification is one of the policy approaches of the German, as a way to reduce poverty and increase food security. From a political approach, the findings show that "small is beautiful" and home gardening is the base way to improve diet and nutrition, from a political approach we are focusing on agricultural intensification as a way of industrializing Sub-Saharan Africa.

58:58

Q3: Barbara Schweiger: I have two questions. Is it right that you have been measuring indicators after harvesting? If you had measured it before, they would have been worse? Is this the right conclusion? And in regards to monitoring, we have measured the indicators after six years of implementation, do you get again in touch with the same group of women? How do you compare this data after a long time?

60:02

Michael Lossner: The survey will be done again in 2019. We will repeat it starting at the end of 2018, and ending in 2019. Then we have the second survey two years after the first survey. This is still an option and depending on the term of the program.

K: There was also the question about the data not being qualitative in nature. Gina, how do you see that?

G: Qualitative methods are focus group discussions or key informant interviews. Those really are a type of methodology that the sample was not selected in a representative way. We are not talking about that sort of data. We are talking about data on a representative sample. There was a sample size calculated, it was multi-stage cluster sampling, randomized with randomly selected villages and randomly selected respondents. The criteria was it had to be a woman of reproductive age, and that she had a child between 6-23 months of age. A quantitative methodology was applied. Your point is correct that questions were qualitative: "What's my experience of food and security?" They were qualitative style of questions in a quantitative methodology. The way we analyze it is through the correct statistical methods: non parametric statistics. What we presented on logistic regression is a good way to look at data that is more qualitative in nature. We will apply the correct statistical methods to this type of data. You might have been thinking of quantitative data like stunting. The indicators collected in this study are quite common. A lot of them were dichotomous variables where you met or didn't meet a threshold.

62:56

Friederike Bellin-Sesay: If you want to compare 10 or 11 data sets, from different countries, and they are different in geography. In all the determinants, you must find simple tools that would allow us to compare after some time, if there is an improvement. If you want to go into quantitative measurements like stunting, it would not give us the same results because after two years, you might only measure your own error in measurements and not change. This is why it was better to go for dietary diversity scores. There was one question on the 'Food Insecurity Experience Scale,' and why there is this discrepancy. This scale looks more into calories and into hunger, it does not look into micro-nutrients. This explains the difference. If you look into many countries, and you ask if they're hungry, and they call their "hungry season" when the one main staple food is not available. But, if you look at what I completed my PhD studies on in Sierra-Leone, their "hungry season" had the highest dietary diversity and the best micronutrients because they were trying to find other foods. Whilst after the harvest, there is a lot of rice and palm oil, diversity is still low. This explains greatly the discrepancy. We cannot really compare them because they are two different concepts. We can teach on dietary diversity, but what I realized on a training in Liberia is that people do not really know what we mean. "Diverse, what does it mean? I can

have five staples and it is still diverse for me because I have chosen five different foods. What does it really mean?"

In our communication strategies we have to find other ways to get concepts across.

65:22

One more point here which is not really mentioned in the baseline is the gender dimension. I was in Burundi this year doing an evaluation for WFP, and we asked beneficiaries if they had received some nutrition education, and they were able to tell me the messages. And then I asked, "Please, can you put it into practice?" And they said, "No." And when I asked "Why?" responses included gender-based violence, they were thrown out of their household and went back to their parents, or they didn't have access to land. There were so many things, and they were all gender based. This may be one of the things the project will look into. And this not only means education for women and their children, but it also has to include those who impact the barriers to change. For example, the grandmothers, mothers-in-law, husbands, opinion leaders, religious leaders, etc. There are so many barriers to change, and if you do not get them right, then we have a problem.

66:39

Markolf Maczek: This sampling represents our target population in the area, and this is what we would do, also for the end-line. We will not ask exactly the same woman, but we will do the same kind of sampling to make sure we can understand the impact we have on the area...

67:24

For the MDW, it is recommended we take data 3-5 months after the harvest period to have an average kind of diversity. We will do the same for the end-line.

67:32

Friederike: If you do it just after the harvest, then people have too much. After about 3-5 months, people are back to normal and you understand what people do under normality. After some time, they go into their hungry season, and their pattern changes again. The methodology that we have chosen is so simple, we may be able to repeat it in a different season. And we may be able to compare seasonality, if there is a need.

K: There was a question about the hypothesis including FIES at the household level...

68:55

Gina: It was calibrated to the FAO standard, to have a globally standardized prevalence of those two indicators: the prevalence of food and security experience scale, severe plus moderate, and severe only. The many different countries had to go through the tests, and that happened this week. And we did not have enough analysts to do it. We hope it is something that will be done.

K: Policy implications and small solution.

69:43

Michael: This is a possible interpretation, but I would not follow you. What I see from the baseline survey is that there is a correlation between agricultural production and the diversity. And among these agriculture production techniques, like the small-scale home gardens. For me, it's a reconfirmation that when we promote home gardens in our program, there will be a positive impact.

How does it work with the home gardens? This was not answered in the study in the baseline. How difficult is it to introduce it in a sustainable way? But to bring together industrial production versus small is beautiful is too much interpretation.

71:12

Are the results which represent a tier specific for the region where the program is working? For example, Northern Kenya, and it is not all over Kenya. It is for sure a country that has potential areas where we have different concepts, and it has areas where we recommend making nutrition security and diversity better with home gardens. This is also an aspect which is important.

Friederike: It is not only the context that it is one region in Kenya or one region in Cambodia. If we look into analysis for each country, we cannot generalize and say we have to do everything now in agriculture production. First of all, the projects that GIZ has chosen have different specific things 71:56 and they are adding on a component. We have to see what is feasible and what is necessary. It is a determinant analysis for each country or for each region. And to generalize a policy from this is quite difficult.

NEW CUT:

(62:42)

Bruno Declercq: We of course share the same objectives as BMZ and GIZ to reduce hunger in the world. We also have numerous interventions. We do, of course, have massive pressure to demonstrate that the intervention we find are having impact on food security and having impact on nutrition. I would like to thank you and share my appreciation of this exercise on this baseline. Nutrition is a multi-sectoral issue, and this is truly the first study that looks at the multi-sectoral ___ of nutrition problems in all the different aspects. (63:41). And you manage to demonstrate some correlation between nutrition indicators, and some and some specific sectors as agriculture, as well as hygiene. That is very impressive.

Now, we would like to know as part of the commission, first of all, can we include as well some correlation with anthropometric indicators? Why did you not take on some of those indicators like acute malnutrition or stunting? Second, this baseline is applicable for a 70 million Euro project, how could this baseline scale-able at national levels or is it a one shot opportunity for GIZ to check that their intervention indeed makes an impact? Why do you not apply it to the overall project? As you mention, you have a 430 million Euro in the pot; why specifically for this competency? (65:09)

Now, you have also different indicators, some of which are new, especially the food insecurity index. You do not mention the mode of diversity for the MDD-W indicator as a new indicator. I do assume you take it as a given, and that you can use these indicators in all your future intervention. Would you recommend to include some of those indicators specifically, or would you recommend the whole package to provide a picture of the impact of an intervention? This is of particular importance for us, because we would like to know that as the European Union if we could try to enforce part of the methodology of the evaluation, the whole package or the whole part, and also should we consider including into our evaluation and monitoring exercise, some specific indicators as the MDW or the Food Insecurity Scale?

K: Who else wants to pose a question? I'm afraid we will only do a second round of questions. What else? (66:57)

(67:07) Martina Kress: Do you believe that what the program is doing now, which is of course very program specific to certain regions of these ten or eleven countries, to what extent do you believe that

the wealth of information and the wealth of data that has been gathered and is being analyzed can also inform national policy and even global policy? And if you do think it useful to inform policy, how would you go about it?

K: Thank you, Martina. And one second to last question.

Jürgen Fechter: (67:58) I think we should differentiate between home gardening and agricultural production. Agricultural production is producing for selling, and I think home garden is for other consumption, and I think you defined it correctly. In one of your hypotheses, I saw agricultural production mentioned, and I am wondering if you meant home gardening?

K: Alright, we take that with us.

Anton: I have one question regarding the sustainability. You have developed an excellent methodology, and the question is if you have any plans to discuss this with FAO? That they would take this methodology as an FAO methodology for the future? And also to make sure the data collected in this project would remain to be a label for the future, because very often projects and what they achieve have a lifetime and everyone forgets about your data. This would be a role of FAO, and I am a very practical man, and this could be a broad check even in addition to the funds funded by the German Collaboration with FAO from the budget coming from the German Ministry of Agriculture. Because, there is a budget and this could be a way to encourage FAO to take responsibility and to maintain this data. And also, to encourage us the donors to do similar studies in other countries because you cannot do this in all of the Member Countries of FAO.

(69:51) K: I will give it back to the podium, and take it to question from the EU colleague who asked about the anthropometrics, and why haven't you taken some on the baseline, and what do you think about the scalability to take the baselines nationwide and/or all the ____ packages?

(70:07)

Markolf Maczek: We did not expect to have measurable success in anthropometric data. We were commissioned for the program for three years. Everyone knows that we cannot achieve anything in 3 years, and since we are the implementing agency and are commissioned by the BMZ, we also have to have approval of our impact. Therefore, anthropometric data was not possible. Even with five years, you cannot expect an impact. If you measure 10 or 12 years, you could expect some impact.

K: There is debate about the time span needed.

(70:59) Friederike: To add on this, the ten projects in the ten countries have different priority interventions and I think they have to discuss the way forward from here. If you look into the UNICEF model, impact comes from so many ends, and later you cannot relate your own interventions. If maybe in two or three areas to the success up there, then you should have a control group. And if you want to measure with some certainty a minor difference, then your sample-size is extraordinarily high. And then, you have to ask yourself if you want to spend more money on baselines that are already expensive. Then you have to increase the sample-size, and have more training and more collaboration, and then you have to make sure that this is really the impact from your intervention, too. And this is the reason why it does not make sense.

K: That was an important clarification here

(72:06) Markolf: To answer your next question, we tried to get all this experience back from all of our coordinators who have done this service, and analyze it in a systematic approach. And what we have

gotten from the feedback was quite an efficient way to ask people. The time we had for the interview and all the questions was less than an hour. It was quite successful to bring all these questions together because we could use some answers for some questions and for other questions. It was an efficient way to ask this, and I am not in a position to say if it is feasible for any other countries to pick it up. But, it is an efficient way to get all of this kind of information out.

K: Thank you, Markolf. There was another question on the feasibility to put the data to FAO and enter the debate. I know you went to FAO last week, and you want to comment on the last bit...

(73:18) Markolf: We went to the FAO because they asked for our experience. I think they have been really interested to get our knowledge because no one has done this like we did. And there was also discussion about how we can feed our experience into their knowledge management. Because, one point that was not highlighted here, was the adaptation to the local context. The translation of the questionnaire to identify all the different foods which are eaten, and this kind of knowledge should somehow be gathered and saved, and made available for everyone.

K: It is nice to see that it is doing the right thing, and something that you asked is already underway!

(74:10) I can just repeat that they are really interested and we are willing to share the data. When someone is coming to us, we are really open to opening our database.

K: Thank you, Markolf. (To Friederike) Is there anything else for you to comment on? Anything about the standardization of common sets? I think that was also an EU question. We have Ines stepping briefly, please.

Ines: Thanks a lot of this question, because we were discussing which indicators to use in the beginning. We would have been happy with a standard package of indicators would have been recommended by the UN agencies, and that's what we have been waiting for for many years, actually. We went ahead, and I think at this point in time it would be difficult to give an answer to the question whether it should be the full package or a selection of the indicators. But, I think that should probably be an outcome or we should follow-up on this together with the UN agencies.

If you have more specific questions, we would like to stay behind after the session. I also know you are sitting next to our colleague who will be part of that group organizing for specific follow-up between GIZ, BMZ and the EU Commission on Nutrition and Indicators and that has already been scheduled, correct Marin? It is going to take place most likely this year. There is already a group discussing that. Back to the podium.

86:14 Friederike: What is unique about the kind of indicators we have chosen is that they are really trying to not to follow all the important issues on the UNICEF conceptual framework. If you look into the UN surveys, for example, you have the WFP and the FAO, they are focusing on the food security side only. Then you have WHO and UNICEF, and they are more in the middle on the health side. And if you want to make a proper determinant analysis on your situation, and you forget one of them, you will of course always find reasons why food security has a role to play or why health has a role to play. But, if you want to have a feeling of maybe what is more important, then you really have to cover them all. You really have to be simple, otherwise the questionnaire will be too long, and you will overwhelm people with all of this. It would be unethical.

87:15 Martina asked one question, and we have not really related to the question of national policies, whether this can be infiltrated. Let's have experience, first, in what we are doing and whether we are successful. And like in Kenya, can this really be policy advice for all of Kenya? Which is highly unlikely.

But, maybe in terms of approach, maybe. I would say first, let's get the work done and then see what can really be put into policy.

87:51 Michael: I think it depends. There are already in the baseline some indications that are usable for policy advice. For example, I remember what Gina said about sanitation. So, this is a policy decision. Only in Malawi is there a very small sanitation program within our school feeding program. We have already had discussions with BMZ that that is too much investment, because it is costly. This would be a policy-decision by policymakers in the country or by BMZ because we want to make more in sanitation because there is a correlation to nutritional aspects. We have not finished. This is the first glance of this study, and there will be further discussions. And we will discuss it with BMZ. Unfortunately, BMZ was not available to attend the meeting today. But, we will have this discussion finally and have a decision of BMZ and other organizations. But, we only can advise.

89:11 K: Michael, you mentioned that when we presented the program, one indicator that we did not look at here today, and that is the one on alignment and harmonization. If you allow me to add, the program has an inbuilt scaling up to the policy level and aligning to, and informing at the country level. And, feeding into the sun movement at the country level where applicable. I think we would be happy to look at the midterm reviews, and see what could be carried on. That would be my suggestion.

89:43 Gina: So just do answer your question Martina, about national and global policy implications: You and I have a shared experience in being in FAO, as you know there were a lack of food based indicators to measure anything about quality of diet. So for so long there were the food security indications of basically FAO's number of under nourishment, that Dr. Sesai pointed out - that is are you getting enough calories? So there was this big lack of what was happening with micro-nutrient adequacy from the diet. I think it is going a long way already at the global scale to say, "Now at least, every indicator is imperfect."

90:24

The EU, there is no perfect indicator, but if you have a suite of indicators then you are better informing yourself. There is also no perfect harmonization. Why is FIES higher here and MAD is lower? You will have to do some context specific analysis. But, I think it is a huge step forward at least to have these indicators available for international use. That is a huge advantage and step forward.

Now the next huge advantage is that GIZ has put them in ten countries. We can now look at them and analyze them across ten countries, and learn from the experience of the program of how they change and how they respond. Now, they are quite new. You have a little bit of a risk of you have to learn, and at the same time I think it is a huge advantage. Having said that, FAO has put the food insecurity scale into 140 countries. 91:15

They believe in it so much, they have done it in an internationally standardized method, through the gallop poll. They have collected the information. I would imagine that that data, from gallop poll from 140 countries, stimulates a lot more interest and a lot more pick-up. Another thing for national-level policy, first of all, it might be interesting for agriculture to have the focus that is just coming that it is not just "quantity, quantity." But, if we are going to reach the sustainable development goals, we need quality as well. Here we have some indicators of quality: the dietary diversity of children and the dietary diversity of women. Again, not all aspects of quality, but at least something you can look at to see what is happening with the quality of diet for the population.

92:08

Then what happens after that is, "Oh, okay...it's important, okay." And then you're doing a national-level survey, maybe a demographic and health survey. And you say, "Hey, you can collect these indicators on

children, but you can also do them for women." That's where I think we are now: to stimulate interest at the national level. I think the interest is there on the international level - the EU is interested, the United Nations is interested. And now it is getting national partners also interested. It is a great point in time to say, "You've got this data now from ten countries, and let's continue observing how it works." So I think there are a lot of policy implications.

93:01

K: Thank you very much, I think we have answered partially the question posed about how to move on and know where we are. I have learned a lot about where we are with the ten baselines for the time being. I would like to ask Michael to remain in front for three more minutes before we close.

93:27

K: Michael wanted to give some closing remarks, and I would like to interview him on this. On your objective, has the afternoon informed you, as the Program Director, on interesting bits on how to proceed?

Michael: After having these studies, this is a simple question that is very difficult to answer. What I learned from the study, is that there is so much information that for me, it is really too early to take a conclusion. We will reinforce this or we will neglect this. I think it is really too early. I see that we are on the right way. That the interventions that we are doing on the ground in the countries are on the right track. We might have to intensify some sectors like WaSH and sanitation, I think. And what is much more important is that we have, with our project managers, in the ten countries to see with them what they do with their country, in their specific region, with their study.

K: This will lead me to the second question. I know next week you will meet with all of your program managers from the countries in a one week workshop. My question would have been, you transport some of this information to all of your staff and the program managers, and there is no standard direction on take this, these baseline directions and how to do it. It will be different in each country, depending on the partner you work with. Right?

95:45

Michael: From my point, there are two steps. First, to encourage the project managers to have a look at their studies and to see what can we do? And the second, we have our midterm review starting in October, and one in February. This is not a standard evaluation which is a new approach and a new method. We want to see where we are, what was the conception at the beginning - you remember that we had a lot of pressure at the beginning to set up the program and to be on the ground, and there was not so much time to see in detail what has to be done in this context and what is not to be done. We will review this, and together with the results from the baseline we may readjust some programs. We will have more funding next year from BMZ, and this will play a role in readjusting the funding to countries.

97:03

K: Thank you very much, I find that personally very impressive that the program is allowed to do the midterm reviews pretty soon after start. To have the opportunity to readjust and that the readjustment, and the evidence-base produced, will influence the further funding. I think this is something we are all keen on observing. We are hopeful we will be invited again to a seminar and an afternoon like this, because I think a program like yours benefits from an interested audience. Including nutritionists from Germany, and different organizations as well as international scene to also give feedback and comments on this. And I think this is part of the collaboration with Gina and her team.

Thank you Michael for organising. Thank you all for being here. I wish you all a nice weekend. What I will take home is that if I want to have everybody on my Sunday table, I need to expand on my cooking skills all in one go. Thank you much for this and have a nice weekend.