

Sustainable Development of Institutional and Human Research Capacity for Nutrition

Webinar Transcript

Katie Appel

Good morning, afternoon, and evening, thank you all for joining today's webinar to learn more about building institutional and human research capacity for nutrition. My name is Katie Appel. I'm an assistant researcher for the Feed the Future Innovation Lab for Nutrition and I will be your MC for this webinar today. As attendees are joining, I'll begin by going over some housekeeping items. I'd like to direct all attendees to a few functions on this Zoom webinar. At the bottom of your screen, you should see a chat icon and the Q&A icon. Use the chat feature to engage in relevant conversation with other attendees. If you have a question for one of the panelists, please use the Q&A feature. Panelists will respond to questions in the Q&A box throughout the webinar, and we have allotted the final 20 minutes of the webinar for Q&A. If you are experiencing any technical difficulties, send a message in the chat box to all panelists so that our technical support staff can work with you to resolve them.

This webinar is being recorded and will be made available on Innovation Lab for Nutrition website and the USAID Advancing Nutrition website. There you can also register for upcoming webinars, and view recordings and slide decks of previous webinars. We will repeat these technical housekeeping items in the chat throughout the webinar as people may join in at later times. I'd like to begin by introducing Dr. Patrick Webb, who is the Director of the Innovation Lab for Nutrition and the Alexander McFarlane Professor of Nutrition at the Friedman School of Nutrition Science and Policy. He'll provide a brief description of the Nutrition Innovation Lab before introducing the moderator for today's webinar. Over to you.

Patrick Webb

Thank you, Katie. And hello everyone, it's a great pleasure to have you here today, we have a wonderful panel of speakers. For this latest in our spring series of Nutrition Innovation Nab webinars, which has mostly to this point, been highlighting the science, the research, the programmatic and policy relevant evidence that has been generated through the Nutrition Lab's work in Africa in Asia. But today we're pivoting a little to hear from people around the world who've been engaged in both in the research, but also in building capacity. Next slide. For countries to sustain gains that they have made over these past years of engagement with the Innovation Lab and other Innovation Labs to undertake policy relevant and nationally relevant research that can inform and guide future steps towards development. And those of you have joined us before have seen this slide which highlights the scope and scale of the research agenda of the Nutrition Innovation Lab. A wide range of countries and a wide range of research topics undertaken in diverse settings and, of course, with diverse methods and depth of studies all seeking to generate generalizable rigorous evidence. Next slide please. None of this could have been done without the many, many, many global and particularly the local partners. And many of those local partners have been taking a lead role alongside us in seeking to build capacity in institutions and among individuals, to take on the mantle of research operations. Relevant research from agriculture, all the way through to nutrition. On food systems and we got microbiome and lab capabilities, but particularly important to sustain some of those gains into the future, so that once the projects have disappeared, the capacity in institutions and among individuals remains. Next slide please. So today we're going to hear from a

variety of great colleagues and friends who have been with us on this long journey, who are going to speak, not just to what was done in terms of capacity building activities, but why it's important and what it takes to sustain these kinds of gains and activities. So important to the overall research to practice agenda. And to lead us through this, I'm very happy to introduce our chair today, Dr Manohar, who is a fellow at Johns Hopkins University SAIS, the school of advanced international studies. She's part of Hopkins Global Food Ethics and Policy Program. And she does research on sustainability of diet, dietary intakes, and food environments, particularly in Southeast Asia. But also experiences among women and food insecurity. She was with us pretty much from the very beginning, has been a core Member from the Johns Hopkins side as a project scientist, and key to most of the capacity building initiatives that we've undertaken in Nepal, under the umbrella of this particular project. So it's great pleasure to have all the panelists here, and a great pleasure to hand over to.

Swetha Manohar

Thank you. Thank you, Patrick. It's a pleasure to be here today with all you. Can you hear me now? Kedar Baral

Yes.

Swetha Manohar

Yes, okay. Good. Sorry. So, it's a pleasure to be with all of you today, and it came, it came as a grateful surprise to have been asked to moderate the session because of the topic at hand, which is capacity building. It's one of great interest not purely because of the teaching and training aspect of it, but also because of the potential of these activities to create sustainable and equitable change. But creating this kind of change, also, the question is how? And how do we collectively do this and think about how to approach the design and implementation of these activities to achieve such a goal. So, to discuss some of these questions here today, we have this stellar panel of academics from all over the world. To share their insights successes challenges faced as part of the capacity building activities that they undertook between 2011 and 2021 as part of the Feed the Future Innovation Lab for Nutrition project. So let me introduce you to them first. So first off, we have Ram Shrestha, who is currently based in Nepal assisting CAFODAT College to improve the quality of the Masters of Science and in Nutrition and Dietetics course. Before, he was providing technical support to University Research Co LLC as a Senior Quality Improvement Advisor for Nutrition and Community Health projects. He has worked for more than 20 years with USAID funded health projects in Asian and African countries, and also served as Executive Director of Nepali Technical Assistance Group and the director of the national vitamin A Program. Next up, we have Dr. Kedar Presad Baral. Dr. Baral is a professor at Patan Academy of Health Sciences and the Director of the Master of Public Health Program. He received his MBBS from Tribhuvan University Institute of Medicine in Nepal, and his MPH from the Tropical Institute of Netherlands. He has worked extensively for Nepal on its national health systems and been involved in policy processes and work with multiple bilateral and multilateral agencies in different capacities. He's also involved in public health research, and his recent work includes the AflaCohort and PoSHAN studies conducted under the Innovation Lab. And then we have Dr. Rebecca Kuriyan Raj. Dr. Kuriyan Raj is a professor and head of the Division of Nutrition at St John's Medical College and St John's Research Institute. Dr. Raj is the course director for the two-week course in international nutrition research methods since 2010, which is a part of the Bangalore Boston Nutrition Collaborative called BBNC for short, which you'll hear more about. And then, finally, but not the least, last but not least, is Dr. Bernard Bashaasha, who is a Professor of Agricultural and Development Economics and the principal of the College of Agriculture and Environmental Sciences at Makerere University in Uganda. He currently teaches both graduate and undergraduate level courses at the university and he is an active researcher and principal investigator for several projects. So, without further ado, I will start us off, and I would like to pass on to the panelists and in a brief moment, but to start us off, I'm going to walk us through some of the

activities that Johns Hopkins University undertook with its partners to conduct some capacity building activities throughout the course of the project.

Grace, can we switch to my presentation now. Okay, so maybe while Grace is bringing up the slides to start the presentations, I'm just going to start walking us through some of the activities like I said.

Okay, I see it now. So. You can move to the next slide. To start us off with an overview of the activities undertaken there are several important partners that we worked with. So, one of our major activities was the initiation of a scientific symposium that focused on agriculture to nutrition pathways, deconstructing these pathways and then building the connections that exist again. Through the undertaking of original research, there was a forum to discuss new findings bring multiple sectors together to identify ways to work together and encouraging interdisciplinary in our approach to solve issues of food insecurity and malnutrition further. We also facilitated the early training of early career researchers with an interest in building their own nutrition research methodology training for the purpose of either increasing their agility at statistical analyses, epidemiological methods, or curriculum building. The focus on education and nutrition research capacity was undertaken in collaboration with academic and government institutions. They were the ones who helped us identifying the training gaps. So, this information informed the facilitation of guest lectures, for example, from global experts on a variety of topics related to undertaking population-based research. It also included MPH students from the Institute of Medicine, training with the Nutrition Innovation Lab's in-country data team and Hopkins' Masters students being mentored by researchers at the Nepal Agricultural Research Council. Through a large national study called the PoSHAN Community studies that was undertaken between 2013 and 16, there was also this steady and maybe less formal unlabeled kind of skills development that was taking place. Local research teams from the Community-based study sites that were recruited and had no previous experience in population-based studies but are now highly skilled and frequently hired to conduct household surveys on health and nutrition, including studies with a longitudinal study design.

Next slide please.

So, I'll bring us back to the scientific symposium now, because that is one of our major activities under the Innovation Lab. The inception of the symposium aligned with the start of Johns Hopkins' involvement with the Nutrition Innovation Lab. We thought it was only appropriate that we would take stock of what was happening in the field of research, when it came to unpacking agriculture to nutrition pathways and the country itself. Especially research undertaken by Nepali researchers. Our already existing partners on NIL activities was the Nepali technical assistance school, and together with them, we explored interest in both the Institute of Medicine, one of Nepal's long standing academic institutions that trains public health professionals and students, and then the Nepal Agricultural Research Council. We found as both institutions are government institutions, we found there to be both much interest, but there was also challenges and creating and agreeing to official terms of engagement. Because being government institutions, there are certain bureaucratic hurdles placed in front of all parties involved and that we need to engage with. We also went through engaging the Government of Nepal immediately, specifically the child health division at the Department of Health services and then also the national planning Commission. The latter being especially interested in the event because of the newly endorsed multisectoral nutrition plan in Nepal at the time, this was back in 2012. Next slide.

What is unique about this event, in my view, is who it attracts. These are just pictures of many faces, but there are few other forums like this that I can think of, perhaps, maybe the micronutrient forum, being one where you have policymakers, program implementers, academics and, importantly, a really large student body from sectors that range from agriculture to forestry to biochemistry to public health and nutrition and education and beyond. Next slide.

So, over the years, the quantity, as well as quality of abstracts, submitted scientific abstracts that have been submitted to the symposium have increased, as evidenced by this graph. The substantial uptick you see in 2017 is when we partnered with the ANH Academy, which brought a larger global audience to

Nepal as well. And these successes could have in no way be achieved without the consistent partnership of the Nepali Technical Assistance Group, the Institute of Medicine, and the Nepal Agricultural Research Council. all of whom were co-hosts of this event from 2012 onwards. Next slide.

We also saw an upward trend with participation, with just about over 100 registrants in 2012 to 500 plus in 2019. The success of the event is reflected in growing attendance, but also in interest from international organizations, UN agencies, looking to collaborate, such as ANH Academy and to UNICEF, and, importantly, the Government of Nepal to the national planning Commission being a Co-host last year. Or for the past two years, actually, so 2019 and before because last year was lost with COVID. But you know, this also reflects the country's commitment to evidence-based policy and programming. Next slide. So, in my personal view, what has been exciting to hear back from the participants directly or indirectly. There is a sense that the conference is teaching, a young cadre of young professionals in Nepal about research with simple approaches such as a consistent way in which the event is held, for example. And how abstracts need to be submitted so even those that don't get to present maybe because their abstracts were not selected, you know, they express that this is the first time they are writing an abstract and getting a chance to think about and practice scientific thinking and approaches--English writing and scientific writing. And this in and of itself has been valuable to several in their career progression. It also gives people who may not be directly engaged in research on a day-to-day basis, but those whose work may be driven by global evidence and appreciation for the science and its complexity. For those who end up presenting, it also offers a unique opportunity and very safe space for those firsttime presenters and young researchers typically speaking and their second, third or even fourth languages. And these are important considerations when thinking about capacity building. Another thing that excites me that I encounter at these events is early career professionals asking questions, difficult questions, of their policymakers and then government officials. Taking the time to talk to students about their research and being motivated by their enthusiasm. Next slide.

So, Grace, I think you can just click through, there should be five candidates that come up. So, these are candidates that attended, who went through the graduate summer Institute of Epidemiology and Biostatistics at Johns Hopkins University. And you can see that there's a range of candidates here. Both those that were a junior faculty at their institutions to those that were students themselves looking to sharpen their methods training. Those that were junior faculty were looking to contribute to the development of the curriculum for their newly, their upcoming Master's in public health specifically in nutrition tracks, so that is part of the reason that they joined this training. Next slide. There were also some stellar early career Nepali researchers that we came across along the way, primarily through the symposium that were really interested in committed to getting the work that they had presented as an abstract at the symposium into shape for full publication. And so, the faculty and other research staff on our team worked with them, with these professionals, on their analyses or supported their manuscript writing and development, all the way through to publication, and these are some examples of course authored papers by those researchers. Next slide.

So, you know nothing comes without challenges and opportunities for improvement. So, in terms of generating interest but sustained interest you know much of our time was spent on organizing the symposium was spent on engaging a variety of institutions and individuals from different sectors. There was a thirst for such events and an interest, but what makes an event successful, such as this is really its content and the science that's shared. But there are always competing priorities and people may not have the time to share the science that they want to, in a forum without some repeated encouragement. Also, we spend a lot of time doing outreach to more and more universities outside of Katmandu and across our disciplines to participate in the event, offering support to those that were based outside of Katmandu and unable to travel due to lack of resources. We also spent a considerable time, making sure the Government of Nepal had input on key ministries and personnel to attend these events to ensure and facilitate the uptake of research findings. When I talk about incentives for collaboration, I'm thinking it's important to bear in mind that we all know that the resources that we're low on them, whether it

be time or money in this field. And we create these partnerships and rely heavily on our partners, but oftentimes these partnerships are based on MOUs and in the interest of supporting the new generation of public health professionals. But there's some thinking and action on the side of such projects such as ours, and the broader community to think about how we value people's time and expertise. So, there are also challenges with working with public academic institutions and the government as there can be sometimes quite frequent turnover, making the continuity of these conversations somewhat challenging. And then the blessing and curse of free. It was wonderful that these events and symposium, the symposium especially, was free and kind of leveled the playing field for participation. But when it is free, it's hard to gauge really who will show up and meaningfully participate. And inordinate amount of time was spent on ensuring those who registered would show up, given the given the physical capacity restrictions of the venue, and to make sure that if somebody wasn't coming, we could offer the space to somebody else. And finally, addressing equity and inclusion. You know as it relates to equity, there is more to be done, I believe. We did have a range of diversity at our events, but you can also see from our individual trainees, that there were more males than females. But also because of seniority and notoriety, often projects like ours focus our collaborations with the heads of departments to make inroads for collaboration. But really there ought to be a focus on engaging a broader spectrum of established professionals, and younger leaders who are also diverse be it their gender or ethnic makeup and representation. An important point is that I think that there is now need to invest in bringing more people around the world or sorry, around the country for such an event. To not have everything be so Katmandu-centric because Katmandu. The government, rather, sorry. The Nepali government has now decentralized significantly, and so we cannot assume that Katmandu remains at the center of everything. There have been efforts to do this, but there's more to be done. And finally, in terms of key takeaways and future directions as a whole, when it comes to capacity building in Nepal, especially in nutrition research and methodology, I think there's a lot of ongoing work, and I think perhaps as we move forward, we may be wanting to think about shifting away from individual capacity building to thinking through more how we can create enabling environments for ag to nutrition research and scientific collaboration. And perhaps utilizing and having systematic ways to conduct both needs assessments, but also evaluating our successes critically. Successes, or failures, right. And then, if our capacity building efforts only-- yeah, my worry is that if we only focus on individuals, you know, some of these capacity building efforts that don't focus on system wide dimensions are likely to be short lived and not as sustainable. In the case of Nepal, I think one key piece, that is missing is long term investments in academic institutions and early career or mid-career researchers as I alluded to before. And there are virtually no funds to be had by these groups of academics, and so we really... And we see the same names of researchers that are led by Western universities, who are collaborating with Nepali researchers, so we kind of want to diversify and level that playing field some. And finally, you know any capacity building activities should center at its core an undertaking equitable representation reflected in our collaborative efforts. And that could be its own long webinar, but I will stop here and now pass on the floor to Dr Baral.

Kedar Baral

Okay, thank you, are you hearing me.

Swetha Manohar

Yes, we are, Dr. Baral.

Kedar Baral

Okay, thank you Swetha for this introduction. And you made my life is much easier. I thought, I'm talking of my own-- next slide please.

The background, this this project to me, is quite complex actually considering that it's very, very difficult to succinctly summarize it. The fundamental question to me is how we understand and interpret the capacity building itself. For my concern is whether or not the agenda of our interest percolate into the

big system. Both MOHP as well as academia, through it is whether it went into the culture within the bigger societal system. That's very, very important, and the other point is difficult, sometimes. It is difficult and challenging to measure the capacity building itself that's why I will give some illustrations, in this regard, from my perspective. Next slide please.

Okay, there are three area I will pick it up. One would be the research training being implemented, actually conducted in Bangalore that there are many faculties and the public health practitioners receive training on research methodology and nutrition. The other one is, and they actually spend in the nutrition science teaching learning in Nepal and also practice as well. And greater number of these students are choosing nutrition topics for their master level thesis. This is very, very important because I believe this is a kind of percolation into the system. And there is a resource methodology training organized in Katmandu, and people from diverse disciplines are increasingly attracted towards this methodology training as well. Swetha presented it to the symposia. These three events actually contributed to creating networking and a platform, to make an agenda into the talking point. This is extremely important from my own perspective if we make an agenda into the system, things will you know, probably not add the input, project input label, but things will be going on. That's very, very important, and this three port on actually contributed a lot to bring the agenda into a different, for a different platform and system at the Ministry, as well as the last project being implemented in Nepal.

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And then add to a study, I would like to just mention here I'm directly involved in the study. The PoSHAN study that's these are, actually Swetha also mentioned that this is a unique and complex and ambitious studies. These are longitudinally studied. And the AlfaCohort study, aflatoxin exposure and its impact, study. These large and longitudinal projects, the second one is a cohort study. We have collected data for three years, from mothers, from children and managing, you know, conceptualizing, identifying research questions, developing tools, and planning a detailed implementation plan. It's really, you know, we have to invest a lot and we learn a lot. And if we learn, if the team at Katmandu or in Nepal learn, then that means it's percolating. I will talk more about this. Like recruiting appropriate people working at the community and research, mobilizing training supervision implementation activities with timeline with different external managing, different external contextual factor data management, dealing and communicating with the ethics committee, sample colleagues and sample transport the stories you know all these this is really complex. Research we completed successfully, completed that field work, and we learned a lot. I think the Tufts team, and the team outside Nepal, and the team in Nepal-- we learn I think together a lot from that. And it's given me a confidence designing a complex study. This will remain in Nepal; this is quite important for us. There are research publications, which is hidden into the system and society and into the academia about delete some probably contributed I don't get I don't have a specific example of having contributed policy directly or single research, but there are concentric efforts like symposia training, methodology training, and the whole engagement of this project. As an important bearing in the interest of capacity building, as a local institution here in

Next slide please. Okay, so some of the examples that's what is happening in Nepal, what is remain here, then.

That's increased number of nutrition advocates, there is a kind of critical mass we have, because this forum, created a kind of informal networking. And they are bringing agendas as Swetha also mentioned here, whenever we have a meeting with ministry, or academia, among colleagues, at the teaching institution, in the middle also there are new programs started and the existing program is trained and, like every year in my institution at least out of 12 MPH students, two usually do their thesis work which is quite every year it's increasing. And in the in the spirit our master program is started in the Institute of Medicine, there is, you know, how it contributes this very difficult to mention. But like I myself was engaged when designing your Master of Public Health, Nutrition course in IOM, together with the NIL team. You know this, there is some level of catalystic role, and leadership at NIL and different

institutions are much more informed. Let me give an example from past itself. PoSHAN, especially the AflaCohort study, our team, our leadership itself, sometimes we discuss how complex we are part of the so complex research design and implementation, and we feel that it's gratifying that we we've completed it successfully.

And there is a continuous feedback being provided for nutrition advocates to leadership of like our institution. Like two of our faculty were trained in BBNC training in Bangalore, and they are bringing nutrition agendas whenever we have a regular meeting. Time in and again, and how to improve our to attract students to address these, what are the agendas now? And mid-level trained personnel experienced in complex research are in market, you know they will be, they will be utilized for other institutions. They have a hands-on, good experience with confidence. And PAHS has partnered in all projects strengthened in its nutrition training and research cycle management. You know, it's there are other reasons, like I'm involved in other research, but these results also helped me to design and to train our faculty members or the staff member, to better design and better plan, better implement and better monitor. These are extremely important and to me. The NIL project was complex, it's got our activities, but the uniqueness to me is this project was engaging at a different level. Which helps to bring the agenda and percolate in the wider system in the society that is remain in Nepal. And to me, finally, without a doubt, NIL is one of the major contributors to growing improvement in and movement in Nepal pushing for an improvement in nutritional status. It helps for the discussion of agenda in into a different forum, you know, it's difficult to measure, but we can feel it. That's why this is a kind of perspective, rather than an evaluated result. With this, I would like to end my presentation, thank you.

Swetha Manohar

Thank you so much, Dr. Baral, those are a lot of very real-life points that you brought up in making capacity building activities a success. Next, I'm going to invite Ram Shrestha to start off his presentation.

Ram Shrestha

Hi, good morning and good evening. I'm Ram Shrestha, and yeah, I'm glad that you know I've been getting a chance to present you know, capacity building in Nepal. I think, you know, from previous you know presentation, you have seen that you know how much the Innovation Lab has been contributed to bring the young scientist, as well as the government and other sectors to do the research in Nepal. So here, I will be sharing my experience as well, as you know, my interaction with the students and colleagues, you know who participated, you know in seminar workshops and proposal writing course. So, I'll be sharing that you know those things with you. Can have another slide please.

So, when I when I discussed with them, you know and interacted with them, got the information, they gave me one thing that the government and stakeholders should work in collaboration with the institutes. You know they said, this is a very, very important. And I also have that experience that you know when we were working in the vitamin A program right we used to go out in the field and then we'll train people, but again, you know the Institute produce more people they come to the government system they are new and then again we have to train, so there is always you know the in service and pre service, between them, you know, there is always lacking. And I again it was it was very challenging for doing the work you know in the field of nutrition research, as well as the program implementation. Right so they were saying that you know, through this, you know what you have been in or mentioned before, you can see that this has really build the capacity of institutes. You know, like the Patan Academy Teaching Hospital, CAFODAT, and other institutes you know where the student scientists has been trained. And another thing, that they say that you know to support, to organize follow-up workshop and seminar, this is a very, very crucial to sustain if we really want to sustain whatever the mass we have created, the government as well, as you know, the institutes has to organize follow up workshops and seminars within the country, so that they can you know continue developing their skills and presenting their findings, right. And third, they were saying that you know it will be really good you know to utilize the institute's capacity whenever needed, either by government or by the donor agencies or by the

program. You know, so there should be a very good collaboration or involvement between the institutes and government, but if you look at you know before, you know that there is there is not such kind of collaboration existing there. So, institutes were left out, you know and the government, you know they were doing more kind of pre service and in service training. And you know, having more. The fourth thing they were saying that you know, the focus should be more on pre service so that the production will be more, and then the government doesn't have do a more in-service training. And at the same time in different areas, if you don't have a person do the research, read the proposal right, and then you know, then the government feedback or making a plan you know, will not be more effective. So, they were saying that it will be very important to have the pre service, you know, focus on pre service so that these people can go and work in the government and so that whenever you go even at the district, they can understand what the program or what the research says they are we talking about. What the survey, what the study really talking about. And I think that that there was a big lacking in Nepal, right. And you can see that, you know, involving more scientists and in academic institutions, and bringing the government and institution together, that has really been helping a lot. Can I have another slide please?

So, the second part, when I discussed with them, can I have another slide please? So, when I talked with them, the second thing they told me that you know the potential areas for future support and investment, can you go back, please. So, when we talk about in the future, investment and the support, then they were talking about since-- can I have a, you know, can you go back, yes. So, they were saying that you know we have produced so many young scientists, and you know the sensitized the students and faculties, right, so we need really to bring them together to have a platform where they can work together with the government, as well as the Institute. So, they need some kind of alumni or network. And another thing they were saying that you know, there are foundations, you know, there are associations, you know, and they are very much involved in developing protocol guidelines, you know, and also helping the government. So, it will be, also important to build their capacity, bring them into the board and train them, you know. You know, in the research and other areas, so they can also help you know, the people are they are members. And the third thing they're talking about, that the technical support, to institute research departments, because there are you know, like, for example, even in Patan Academy, in CAFODAT, in teaching hospital, you know other places where there is research department, they really need, you know, there are people now, who has been trained that really want to the research. For example, in CAFODAT that we produce you know the students in the field of nutrition and dietetics-- 23 every year. So, if they produce a quality thesis, you know, that is very important, you know even for those people go back and work in the government, right. So, building their capacity is very, very important, because they go to NHRC, National Health research, you know counselor, and they will be working there. So, understanding them and having a very good pre service training might help the government to have a very good quality staff, so they can you know plan and do the research very well. That's what the people who participated, they were saying. And the fourth thing they were saying that you know the funding agencies or donation agencies, if they can provide some kind of support to the Institute, like providing with the equipment or you know, or even small, smaller scale funding. You know, to the best proposal, you know retained by these young scientists, that will also be kind of encouragement. And that will also help them, you know, to move forward with the good research activities. And the third, fourth, fifth thing they were saying that you know the implementing partners of programs, this would also involve institutes, in their studies, or you know, like the surveys, or the research, you know, so that institute can help them to you know to provide you know the quality technical support and that will remain in Nepal, right. And another thing that I found that and I think that happens, towards the end of the project was because we had produced so many dietitians, but there were no, what do you call, the strong recognized, you know protocols or standards, so thank you Liz who really organized, and we brought on most of the dietitians together, and then discuss about it, but came with very good ideas that how everybody could work together and have a standard, so that you

know they will get recognized, you know within Nepal. So, these are the things, you know, I came up with the interaction with colleagues and students. Can I have another slide please?

Swetha Manohar

Ram if you have 30 seconds.

Ram Shrestha

Yeah, so here I you know, I have one of the few pictures like this shows that we're, the institutes, as well as the CAFODAT, they were talking with the you know the Innovation Lab people about how the dietitians can work together. Can I have another, can we move, yeah. So, this is also about you know the CAFODAT and other students participating in the Innovation Lab workshops, let me have another one. So, there are three or four pictures I have shown how our students were in, you know, so the students are doing the creative things, how they can, you know... The portion size of the you know, to promote for different diseases. Anyway, to sum up, you know what I think that with the Innovation Lab you know they really sensitize people, created very good environment, bring a lot of people together, right. So, I think right now, it looks like, as Dr. Baral mentioned, right, in Nepal, if we look at the research, and the institutes and government working together, it looks like you know the iron is really hot, right, we just need a hammer and good implementer so that you know, the thing can be sustained. Thank you very much.

Swetha Manohar

Thank you so much Ram Ji. So, moving on swiftly and the interest of time our next presenter is a Dr. Raj from the St John's Research Institute in Bangalore.

Rebecca Kuriyan Raj

Thank you Swetha, and it's my pleasure to be able to talk to you and I thank the organizers for inviting me. I'm happy to share a few of our learnings from the Bangalore Boston Nutrition Collaboration, and it will be a pleasure for me if you have any questions or want to know anything further. So next slide please, so why, why did we actually think of starting this collaboration? Is because India was going through and is also going through a state of where we have the double burden of diseases. Where we have non communicable diseases, increasing against the background of infectious disease. In order to tackle this problem, we needed to have a set of trained Indian professionals with the appropriate skills, knowledge and abilities. And we wanted them to work across multi-disciplinary fields in order to be able to plan research studies that influence both policymaking at local and international levels. Additionally, the need was because there was no affordable comprehensive course which actually trained the students to acquire the necessary skills and competencies to cover high quality research in nutrition. There was no single institute that had actually the expertise, the skills and the infrastructure to conduct this under one roof, and, moreover, every single course that was even being offered was expensive and not affordable to all. Next slide please.

Keeping this in mind, we wanted to start a collaboration and an education collaboration, and we call it the Bangalore Boston Nutrition Collaboration, which is actually a collaboration between scientists at St John's Research Institute, Harvard School of Public Health, and the Tufts University. And our aim was to actually build and to have and to run an interdisciplinary course which actually train the students with skills and knowledge to work together in different disciplines and to conduct research from both "Cell to Society, influencing both policy, as I said, a national and global levels. A pipe dream, at that stage that we thought was to create a course that was intellectually excellent. Using our in-house SJRI and the division of nutrition expertise and infrastructure, but we had a dream of making it completely free, at least for the Indian students. Next slide please.

We also have a secondary aim was to also identify both young students and junior faculty to actually undergo student training programs at Boston. One other aim was to also develop distant learning modules so that our course could be extended to a wider audience. And it's what started as a dream

and a very ambitious dream, actually was we were able to do it because the right people got together, and I must mention the enthusiasm and the wholehearted drive of our course directors, Dr. Kurpad, Dr. Duggan from Harvard and Dr. Griffiths from Tufts University. We together aimed for the sky and even managed to put it together. Next slide please.

And so, in January 2010 we started the first two-week course with the modest number of 25 students from India. In 2011 the USAID supported and sponsored star students from both Nepal and Uganda. The new unique and the unmatched feature of the BBNC short course is that till today until the last conducted course, it is totally free for the Indian students. Not only is there no course fees, but accommodation, travel, and incidental costs are born by the BBNC, and there is no course fees for students who come from outside India. Another major achievement at all, a major plus point is that every lecture of ours for the students is co taught by faculty from SIRI and Boston. So, we feel that different dimensions of our expertise can be added, and the students can benefit from that. All the training was carried out and is carried out at SIRI in this way, we have trained over 550 students across the 10, 11 years that we have started, since we started the BBNC. Next slide please. Achievements in these II years include high quality capacity building of students from India and other countries, like I mentioned earlier, Nepal, Uganda, Australia, Bangladesh, Denmark. And the other countries that are listed there. We also developed web-based learning system, which has been completely, an entire course is run on the platform and we got this has support with a lot of help from Tufts University. And the course lectures, the course feedback, interactive learning, everything is done on this web-based learning system. Along with this, for a secondary aim as a part of it, we have actually had student exchanges with 12 students and faculty from SIRI have actually visited Boston, collaborated together, and either written papers together or actually written proposals together. We also have students from Harvard College and graduate students who have visited us and worked on collaborative projects, which are all actually resulted in scientific publications. Next slide please.

Who did we train? We trained nutritionists, research scholars, public health workers, people from the government, people from academic institutions, we had state and national nutrition program officers, public health officers and also policy people. Because we felt that these when we need to at least introduce and provide the basic skills that are needed for conducting good research from cell to society. And next slide please, this is just the distribution of our BBNC alumni across India and the globe. And specifically, because it is through the Nutrition Innovation Lab at Tufts and through the USAID, I have actually put up the different universities and institutions, from where we had our students from both Nepal and Uganda. Next slide please.

This two-week course, actually, this is a set of pictures, but what I wanted to show you was the continuous student faculty interaction, which is clearly the strength of our course. And why we get introduced to students to many substantiated sessions, such as nutrition in global health, biostatistics, ethics, public health policies, administered writing proposal development, we also group them into different groups, and these groups work together for two weeks, and on the final they actually presented to us faculty a proposal which, like it was they were going to propose to a funding agency. This we at least thought would help them make baby steps one, first of all to work together and collaborate with partners from different fields and also to learn a little bit of proposal development, including budgeting. Next slide.

What we think made it work is that first of all, the division of it, as I said earlier, the non-institution had in-house facilities, infrastructure, skill and expertise under one roof, and we are proud to say that we could conduct that for II years under the Division of Nutrition at St John's Research Institute. That constant feedback and the first point that always comes back from our students is that the Faculty, the excellent multi-disciplinary team of expert faculty are our major strength, some of them have been part of our course for II continuous years, but some of them like Dr. Webb and Dr. Ghosh have actually enriched the course by their presence for two to three years with their passion for teaching. But all in all, our faculty have been excellent students have been enthusiastic and infectious enthusiasm among

them have helped us, of course, to be a success. And of course, we had the advantage of Bangalore and our practical that is one of the main strengths, that is, the hands on the afternoons of every day was spent on practical hands-on demonstration. Next slide please.

And all of this would not have been possible, especially without charging the students and supporting the students without financial support from our different funding agencies that I have listed here. What I want to point out is also and to encourage all of you to look out for opportunities, because some of you in the audience who want to look for collaborative work. Like we in 2014 actually received the India US knowledge initiative, Obama Singh 21st century award, which actually supported the BBNC for three years. This is a very prestigious award that we got, but it also allowed us and gave us the flexibility to continue not to charge the students for the next three years. Next slide please.

Of course, everything comes with challenges and some of the challenges that we had in BBNC is that the limited number of students, that we could train every year, part of it was a conscious decision because of our hands on practical, intense in learning that we want our students to have, and part of it was also because of the limited funding, we had to actually sponsored more number of students. The time can be a challenge, I have presented the time and that we conduct the course which is every January is because the Boston faculty, it's easier for them to come, then, but in India April and May is a better time for students, because they have vacation, for example. But we have worked around that and we have managed to still conduct the course well in January with good participation. Financial support like Swetha and all of us are talking about, financial support continued sustainable financial support for this program is something that is a constant challenge. We have been able to overcome that but, in order to sustain this we surely have to look for more funding. Next slide please.

The way forward, we look at it is, we also want to actually create a distance learning program some similar to the MOOC where we can have a wider spread of our BBNC program. We're thinking of changing the structure of the course and focusing on specific areas of interest, based on the students' needs. Can actually contact and connect with the BBNC students, encourage collaborative partnership among themselves and with the star faculty. Apply for funding, which is always needed to sustain the program, and also to look at to see all of our alumni of BBNC and see where they are now. Next slide please.

I'd like to conclude, and to encourage or part of the students in the audience who are young people that BBNC is a true example of how collaboration and partnerships can work. We started with friends from SJRI with our friends at Harvard and Tufts, and today we are collaborators and partners have a very successful Program. It reflects that there is, we can build capacity opportunity and network across the globe simply, and this is where BBNC is a simple example, why have this unique passion of our faculty to teach and share as put it and brought it all together. I will like to end by saying what Dr. Jeff Griffith from Tufts University said that BBNC is like a crucible, where people from different backgrounds melt together for a short week, maybe two weeks, each contributing energy good will at eagerness to make the place a better world.

Also, just like to next slide is just a publication that we had presented and it's a reference of our BBNC, and what it is, I mean some of you can refer to it to get a background of our BBNC. Thank you.

Swetha Manohar

Dr. Raj, thank you so much for that it was a very clear presentation, but I think has also infused us all with some enthusiasm for what is to come. And also, just making a really good point about how these collaborations either prior to or now have fostered not only professional collaboration, but friendships and mentorship, and this is yeah just really important points. Thank you so much.

Finally, to wrap up presentations before we go into the Q&A, I would like to invite Dr. Bernard Bashaasha to please take this stage. Dr. Bashaasha actually you have about 10 minutes.

Dr. Bashaasha I think you're still on mute maybe.

Bernard Bashaasha

Muting, yes.

Swetha Manohar

Yes, we can hear you.

Bernard Bashaasha

Good evening and good morning depending on where you are. Making this presentation on now for some of my colleagues here, I wanted to be on a webinar today. Bashaasha is my name, from Uganda, Africa. Next slide Grace.

Um okay this, I will be going through these eight points and I, in the interest of time let's move the next slide, Grace. So why did we do this, why did we go into capacity building, why did we prioritize capacity building. Basically, we are responding to a knowledge gap in the nexus amount agriculture, health and nutrition, both of the national and local government levels. Those of you who know Uganda, we are a little bit more decentralized and so there's a lot of activity happening at the local government level. So, the point here is traditionally our training is vertical of the agriculturists, people who are the nutrition people are basically studying separate today, and I wanted just to make sure everybody works together. As we would appreciate that by you get more by bringing in three areas together. Next slide Grace.

Um we have various types of our capacity building and the previous speaker I think has made my life a bit easier, it is the short courses largely the BBNC in Bangalore that has just been presented to you has been one of the major areas of support to us. But we also have graduate training at both masters, PhD, and postdoctoral levels. We also had a national scientific symposia as progress because I've also alluded to this. But also, what we think were unique were district level awareness raising workshops that are you talking a little bit more about this on some aspects of curriculum. And so, these are areas largely we touched on in terms of our activities in capacity. Next Grace. In terms of numbers, for a long time we counted 80 for the period of 10 years, short term 2161 for a cumulative total of 2241. And I'll be presenting the average again the some of the coming slides. So that's cumulative to what we think has happened for the 10-year period, another capacity building activity. Next Grace.

On an annual basis, this is again the picture. But you can see long term is flat, because I think short term has basically played the more important role than the long term. And something good happened in 2016, but after that then the picture is, by and large, the same. Next Grace.

What we think worked well. We think we are able to improve awareness of this integrated approach to nutrition through mobilizing both agriculture and health. We raised this awareness at high government levels, including the office or the Prime Minister, that's the OPM. And nine ministries. Also, you can see this in recent the government's policy documents, including the Ugandan Nutrition Action Plan, a national development plan three, what is an old ministry integrated approach to nutrition. Next Grace.

We also, as I said, piloted district level workshops, as the tool for raising awareness of local districts. Independent some old entities, the receive a budget and have a way, and how they discussed at the budget so we did a number of activities about the cohort and the district level, then we did the analysis, and we were taking this information back so that they could go locate funds for nutrition and we think that is being done. We also built impact for its partnerships down the line, including universities and the central government, which we think we can deliver it going forward into their other activities. Next Grace.

Okay the people trained all over the place, and we think we've successfully infiltrated both public, private, and even NGOs. So, you find our people in policy making, most of central and local government level. A number of them are engaged in academia and research, but others are in hospitals, providing health, I was a local government as I've already said, but also the NGO world and the other projects are being managed by some of these people trained by us under the BBNC as I've already said. Next Grace.

Enablers, what we think enabled us to go that far was the strategic partnership was important, and I have highlighted institutions involved there and, these being high profile institutions really it makes sense to sort of bring them together. We're also able to identify the network at both national and local levels. We use a gender lens especially in terms of capacity building, especially for nutrition. We discovered that the ladies tended to work better in communities and deliver more effectively. We also actively pursued mainstreaming of the integrated approach as I've already said, and then the last bullet, we also exploited existing social capital, we just noticed that policymakers don't listen to the science, they actually use the science when they know you better, when they can relate with you, and they know something about you, or they can trust you. Next slide Grace.

Furthermore, or so, we had champions on one nutrition. We have our famous Professors Kikafunda and sadly the late Kisamba, who were very good champions, who were heading the national planning authority. The strengths of the management team would thank the team at Harvard, Tufts and Tuskegee and of course us Makerere for getting this done together, it takes many hands to get results, I know, we had a supportive your side, the office and officials were actively tracking down what we are doing they're asking for briefs and presentations on this and kept us on track. And also, we grew our experience from previous similar engagements. Next Grace.

Challenges of resources are always constraining, and in this case that was the case. We had our governance bureaucracy to deal with, sometimes it worked, sometimes it didn't work and of course the COVID 19 pandemic, which we all know, constrained some of our capacity building activities were admitting the set in our districts, but when this pandemic happened, we were told not to show up there and afterward we are still negotiating whether we can do this or not. Next Grace.

Finally, we think some additional capacity building is needed especially focusing on short term training, we think it is cheaper and more effective. And now we also need to keep on interrogating the data, we've collected large volumes of data that we still need to exploit, and then focus on local government for quick impact. Thank you very much, over to you.

Swetha Manohar

Thanks Dr. Bashaasha. These are great presentations and really appreciate the clarity of many of you, and also to pushing yourself beyond the usual reporting of how many people were trained versus not. But really getting into some real life, challenges and successes, so thank you, we have about 15 minutes for questions. So, I am going to start off by posing these questions to the panelists, and some of them are specific to specific speakers, and some of them are broader. So, I will start off with some of the specifics. We have quite a few questions directed at you, Rebecca. In terms of one I think you mentioned already that you would like to do more follow up with the students to see how they put their skills to use. But is there any follow up with the participants of the BBNC program? Is it still going on, and how does one get enrolled? And what are eligibility criteria for participating in the in the course.

Rebecca Kuriyan Raj

Thank you Swetha. So, the BBNC course is actually going on, but this year, we did not conduct it. The reason is Dr. Duggan and I did think about having an online course but, since as is predominantly hands on practical sessions, we thought that the maximum benefit would be only if it is an offline course, so this year, we did not conduct the course, but our previous course was in January 2020. And yes, what happens is that the September of every year is when the application form and the advertisement is put up on our website, on St John's Research Institute website, which is SJRI.res.in. And there is a I think a time period of one month that is being given, and then we, all the course directors, evaluate the applications and we do select the students. So, we have over 150 students or applicants who apply and we choose about 25 to 30 of them. Now regarding the question of yes twice we have actually contacted, so we have a BBNC alumni site, and we have contacted alumni and seen how they have grown in their career and professional career. And also, you know whether, how they have put in the

skills and the various learnings from BBNC into their career. But now, since II years we were thinking of going back to them and actually seeing the impact of the BBNC course.

Swetha Manohar

Great. Thank you. There's another question here that's addressed to you, but I would like to open it up to the panel should anyone have strong opinions about this. So specifically to you, Dr. Raj at the question of have you thought of eligibility and targeting of students for the BBNCs plan MOOCs. And then you know to broaden that question to the rest of the panelists, just to ask you know when we're thinking about targeting our capacity building activities, and who and what or you know which institutions, if anybody has some strong feelings or insights on, you know how these kinds of activities should be targeted.

Rebecca Kuriyan Raj

So, did you want to start with the other?

Swetha Manohar

Sure.

Rebecca Kuriyan Raj

Yeah.

Swetha Manohar

Why don't you start us off Rebecca and then we'll move on to the others.

Rebecca Kuriyan Raj

Okay sure so let me just check, I could not find the question, but let me just confirm the question is that what is the eligibility for the BBNC, is that...

Swetha Manohar

So, have you thought of eligibility and targeting of students for the upcoming BBNC's planned MOOCs.

Rebecca Kuriyan Raj

The particular.

Swetha Manohar

It's asking about the MOOC, but we can also expand a bit, yeah.

Rebecca Kuriyan Raj

So far, who we actually you know target is the young and junior faculty level people post grad docs about that, I mean both doctorate and post doctorate students who are actually in an academic institution, or where they can go back and build capacity in their institution. That has been some independent researchers independent practicing dietitians, and not somebody we really target for, but if they have been really having a good research career and promising career, then the biggest, be they have been chosen, but otherwise it's generally young enthusiastic people who have done some work in research in public health, but who have surely attached to an institution, and also who are likely to go back and build the capacity. And you know disseminate what they have learned here.

Swetha Manohar

Thank you, is there anyone else on the panel who like to address this question.

Bernard Bashaasha

Well, what I could add is, I think the BBNC current today excludes some groups that would benefit from the training. And I'm looking at countries in Africa, where the NGOs are actually doing more work on the ground than almost any other person. And I mean certain researchers and center researchers

and perhaps are not in the side who are going to be in universities or other institutions training other people, but they could train communities. Because these are Community-based personnel, so I think opening up there would probably be important. Over, thanks.

Rebecca Kuriyan Raj

Okay, can I say something yes, Swetha? Hello.

Swetha Manohar

Sure, go ahead.

Rebecca Kuriyan Raj

Yeah, this is, I spoke specifically with related to Indian students, now in terms of students from Nepal and Uganda, it's, as you know, the selection is also done combined with you know the Nutrition Innovation Lab, again based on how we do the benefit capacity building backwards, but I take the point that we should also look of people who are actually working on the ground.

Swetha Manohar

Thank you, thank you. So, we also have a question about, so this is a maybe a question for Ram Shrestha, and you know it's coming from Carolyn McDonald saying that she appreciated the learnings from the speakers on the Nutrition Innovation Lab in Nepal. So, her question is just wondering if there are any plans to address these example moving beyond one project and individuals to systematizing the institutional capacity strengthening. Both in service and pre service and increase government linkages for a nutrition research but also nutrition programming. I think, maybe we are not able to talk about the Innovation Lab alone at the moment because we have come to an end, for now. But if you can maybe speak more broadly to any plans that are underway in Nepal, Dr. Baral and Mr. Shrestha about taking forward some of these learnings.

Ram Shrestha

Okay, can I answer that? Yeah, I think you know I mentioned a little bit that you know, Since the CAFODAT College is offering you know the master's degree in nutrition and dietetics right so we're really looking at, you know how this learning can be you know, adopted into that college and institute and produce a quality research for the master's thesis, right. So right now, you know, the College has a started a department of international affairs and research, where you know the students who has already been trained, either through the proposal writing courses or the poster presentation, or whatever the skills they have learned, you know, with the increase or motivation from them, you know the CAFODAT has just started at that. And then we are thinking to collaborate with the Patan Academy and the teaching hospital and then see how we can be a hub, you know for these students, as well, as you know, you know other young scientists to really collaborate with the government, so this is what we are planning to the through our Institute.

Swetha Manohar

Thank you for that. I don't know Dr Baral if you have anything to add if you don't that's also fine, because there's quite a few questions here. But I'm going to welcome you to add if you like.

Kedar Baral

Yeah, just one point is, we are so far, there is an informal networking, but functional. I'll give an example, like last week, a CAFODAT student and agriculture student visited our institution, asking some of the research questions and other issues, you know that there is an active personal networking is going on, like the BBNC participants and research methodology training participants in Kathmandu, they jointly published article. What I mean is, we are trying to much more kind of formalize self-driven forum. That's what Ram Ji is also talking about, rather than project-based but creating a platform, so that people can participate and help each other share experiences, this is the thing that's we have been discussing

together with Ministry of Health. We don't want to miss them as well, because they create a market, there is a program that they create a market, and if there is a market that is increasing number of professionals who will join at the University, you know, if there are increasing numbers then the university itself will start investing more, it is kind of percolating that's what I see from my perspective, and this is my personal opinion, no.

Swetha Manohar

Yeah no, thank you for that. And I'm going to, we have maybe two to three questions left, and so the next question is about, I'm going to reframe some of it because it's talking about other sectors, so and not even sectors but issues that link to nutrition. So, for example it is asking about the exposure of mycotoxins to food, which is plentiful in the food system in Nepal, as evidenced by some of the work that the AflaCohort studies have also done. And he's asking, you know, if there's an agreement that there needs to be some mitigation of these mycotoxins. You know, are there plans to encourage public health students to address nutrition outcomes by thinking about the food toxins? For example. And then related to that is another question from someone who is part of the dairy sector and also interested in how to bring some of these worlds together in terms of the science, but all with the intention to improve nutritional outcomes. So, I'm just going to have maybe Dr. Baral answer that question.

Kedar Baral

Just quickly like including this much more agriculture, you know, health, agriculture leading to nutrition, we do have in our teaching learning in our university, we do have. One of our faculties studying pesticide use in Mkwanpur District, where our former MPH student is starting in Bhaktapur about the pesticide. And the mitigation of this aflatoxin is number one on the agenda for now. We are still you know closing, our data is being analyzed and just to let you know that all the participants, one of the coinvestigator of this AflaCohort study is director currently either epidemiology and disease control division director. And we have already engaged them, we have already started discussing with them what would, what is the fastest a possibility to be in role, you know, to bring into a program. There is some initiative being done, some discussion is going on, we are quite sensitized, to be honest and confident we do have evidence now in hand. Let's work together, that's from my end, you know, rather than have it's asking to do this from that sector or that sector, let's create a forum and exert together, thank you.

Swetha Manohar

Thanks Dr. Baral. So, I'm going to ask Dr. Bashaasha one question and then we're going to close with a question from Rajan Podel, who is asking about you know how do we continue such activities in a more comprehensive sustainable, and I'm going to add, equitable way. And I'm going to give each of you 30 seconds with for your last thoughts before we wrap up, but before we do that, Dr. Bashaasha you, you mentioned something about sort of soft skills that where there are power dynamics that go on, within who is selected to attend trainings, you know which institutions are collaborated with, and I wondered if you thought if there's a space for developing soft skills, like how to manage power dynamics or incentives or interests or gender relations, for example when it comes to building up these ongoing activities.

Bernard Bashaasha

That's a tough one, I don't know where to attack it from.

Swetha Manohar

Just yes or no, no, but yeah no.

Bernard Bashaasha

I think yes, when you look at institutions, they are groups that are traditional favored, and I will not go into the details, the institutions that a traditionally favored. There are even regions in Uganda, that that traditional favored, so unless you actively seek out and go beyond those traditional favored institutions,

then you will always pick from those institutions, you always pick from those regions, you always pick from those kinds of people, so that's what I can say yes, so that is a room for improvement when it comes to selection. Thanks.

Swetha Manohar

Thanks Dr. Bashaasha. So yeah, as I said in conclusion, everybody gets now, maybe even less, 20 seconds to talk about if there's one thing that you can say in terms of continuing such activities in the future, in a comprehensive sustainable and equitable way to improve nutrition and food insecurity globally, what would you say. I will start off with Dr. Raj.

Rebecca Kuriyan Raj

Thank you, thank you Swetha. I think, for me it is collaborations, partnership working together, and you know, so that we can build the capacity, using our own skills, expertise, and being able to train the maximum number of students.

Swetha Manohar

Great. Dr. Bashaasha?

Bernard Bashaasha

Thanks. To me, capacity building, can never be a one off, so we need to tell our story, and then our story would probably attract more support beyond USAID. That's one. Secondly, I would like to see us focusing more on communities, well, I think, in communities you achieve quicker impact. Thanks.

Swetha Manohar

Thank you, Dr. Bashaasha. Dr. Baral?

Kedar Baral

Thank you. What I learned from, you know, working with the NIL team is a long regional engagement. Will be the best approach for the capacity building, I think we continue to maintain that through creating a platform like collaboration, networking, and you know, promoting, organizing kind of informal presentation if we don't have even resources organizing talk program, using ids, and these are these are some of the things, and some of the important lesson learned from our end actually. Thank you.

Swetha Manohar

Thank you, and then we're going to have Ram Shrestha. Are you still with us, I think you're on mute.

Ram Shrestha

Yeah. I think there's you know, government stakeholder, you know collaboration with the institutes is very, very crucial you know. Because that will balance, you know the pre service and in service capacity within the country right, and on top of that, you know initial support from either program or donor agencies is very important. And the second thing is, you know it should not be a one-time activity. Or the project activity is should be continuing the collaboration between the stakeholder the government and the institution, I think, I think that that's one take home message I want to share.

Swetha Manohar

So, we've had a lot of really great ideas here and I'm not going to reiterate them, because I think you know they were very eloquently put. From my end, I think I agree that you know, there needs to be leveraging a more of a collective voice to establish research priorities and training needs from the countries themselves. And maybe that there's incentives for academics financially, as well as otherwise in terms of resources to conduct their own original research, and you know that perhaps founders can think about and mandate that. Researchers from low- and middle-income countries are setting the agenda and see collaborations with universities outside of their countries as part of writing their proposals, for example. But there's just you know it has been a wealth of information shared today and

I hope that there's been some important learnings and you know we can always continue this conversation via email with any of the panelists. Feel free to reach out to us at any time, and yes, thank you for joining us and spending your morning with us or evening or whatever it might be. And with that I'll bring it to a close. I'm not sure Devyn, if you want to take over for any reason, but, thank you so much for your time today.

Bernard Bashaasha

Thank you.



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