

THE BROOKINGS INSTITUTION
BROOKINGS CAFETERIA: “Echidna Global Scholars: Learning across a girls’ lifetime”
Friday, October 11, 2019

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(Music)

DEWS: Welcome to the Brookings Cafeteria, the podcast about ideas and the experts who have them. I'm Fred Dews.

Today's episode highlights girls' education and the Echidna Global Scholars Program, a visiting fellowship hosted by the Center for Universal Education here at Brookings. The program's visiting scholars are leaders in the NGO, research, or policy communities of their home countries and their work focuses on learning opportunities and outcomes for girls in the developing world.

I'm joined today in the Brookings Podcast Network studio by Christina Kwauk, who leads the Echidna Global Scholars Program and is a fellow in the Global Economy and Development Program at Brookings. She's here to tell us more about the program and then she'll share her discussions with the current cohort of Echidna Scholars. You'll learn more about their backgrounds, and who inspired them in the important work they are doing on girls' education in their countries including India, Nepal, and Bangladesh.

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Christina, welcome back to the Brookings Cafeteria.

KWAUK: Thanks for having me back, Fred.

DEWS: So, last year you came to the studio to share with us the work of the 8th cohort of scholars, we're now talking about the ninth. Before we dive into specifics on the program, I'm curious whether there is anything to flag for our listeners on the general state of girls' education and any big trends or changes over the last year.

KWAUK: Yes, it's helpful to get the bigger picture on girls' education in order to better appreciate the contributions of our scholars and how they are helping to change the social landscape in their home countries. So, notably, we've seen the girls' education community shift from focusing solely on girls' education to focusing more broadly on gender equality in and through education—and this is in part because of increased recognition that gender inequality in education manifests differently in different parts of the world.

Additionally, while big donors and even entire nations are recognizing the importance of girls' education and are investing in it accordingly—which I think is terrific and great—there have been major political setbacks around the world with regard to girls' and women's sexual and reproductive health and rights.

But on a happier note, there has been a trend where girls' education is being tied to broader global societal outcomes. For example, here at the Center for Universal Education, we're looking at how girls' education intersects with global issues, such as climate change and sustainable development, artificial intelligence and technology, and even the future of work. Looking at girls' education I think really provides an entry point to looking at broader issues of global and social justice, so I think it's always good to get a sense of how the field is changing.

DEWS: That's a really interesting point and I just want to make an aside here and talk about the conversation that you and I had here two years ago about the intersection of girls' education and addressing the effects of climate change. There was a very interesting report that you authored, and we often don't often think about how providing learning opportunities for marginalized girls around the world could simultaneously contribute to tackling some of the biggest global challenges we face today.

KWAUK: Absolutely, yes. That report, I'm happy to say, is very much a driving factor in the work that I'm doing as a scholar here. And I'm following up with it with another report later this year, so I'll be happy to share that later.

DEWS: So now tell me a little more about the Echidna Global Scholars program.

KWAUK: The Echidna Global Scholars Program is a visiting fellowship hosted by the Center for Universal Education that amplifies the voices of girls' education leaders and contributes to the generation and communication of evidence-based policy and practice in girls' education.

Echidna Scholars spend about four-and-a-half months here in residency with us here at Brookings and they pursue research on issues that are really focused on improving learning outcomes and learning opportunities for girls in the developing world. As part of their fellowship each year, scholars are required to produce an original and independent piece of research, but we're also really hoping that they are able to leverage Brookings's platforms, like the Brookings Cafeteria Podcast, to really locate their research in the wider global girls' education discourse. Each fall, we also host a research symposium during which the Echidna Scholars can present their research findings to the wider girls' education community.

And to date, we've hosted about 31 scholars from 18 countries, including the three that you'll hear from today in cohort nine. And with 31 scholars now the program is really developing a robust network of girls' education leaders around the world, and their spheres of influence are expanding to regional and global levels. They are serving on boards, they're collaborating with international partners, they're winning awards for excellence, and they're having a direct impact on the lives of girls and women through improved policy and practice.

DEWS: Well it's a great program, and over the past couple of years I've had a chance to meet some of them, and agree that they are an impressive group and they all have really interesting stories and are making great contributions in their fields. Each year there is a different overarching theme that ties it all together, so what is the theme this year?

KWAUK: Yeah, so this year, one of the themes is learning across a girl's lifetime. So, the scholars are tackling not only learning during adolescence, which is where a lot of girls' education actors are focused, but also looking at how to prepare girls for lifelong success through interventions in the early childhood years—which is the 3-6 year age range, at least for our research year—and later in adolescence and young adulthood during girls' transitions to work.

DEWS: Okay, that's great. It's a fascinating series of interviews that you've done and we look forward to hearing them, so I'm going to hand over the mic to you and we'll hear your stories with the current Echidna scholars. Thanks.

KWAUK: Thanks so much, Fred.

I want to start by letting this year's cohort of Echidna Global Scholars introduce themselves.

SIDDIQA: My name is Nasrin Siddiqa. My organization is ECS, Education and Cultural Society. I am the founder president and CEO of that organization.

PAUDEL: My name is Anil Paudel from Nepal and I am the CEO of Right4Children, a non-profit organization focused in education.

SUBRAMANIAN: My name is Samyukta Subramanian and I work at a not for profit called Pratham back home in India and I lead early childhood education programs with the Delhi government there as well as other education initiatives in different parts of the country.

KWAUK: This year's cohort of scholars all hail from South Asia and, interestingly, all happen to be practitioners. I asked each of the scholars to reflect on what it was like going to school when they were children. Here's Nasrin from Bangladesh.

SIDDIQA: I was basically an urban girl, so that I went to a different school, college, and University of Dhaka City which is the capital of Bangladesh. And at that time I found that it was really hard for the urban girls even to go to the school to complete their education especially for my youngest. So I saw that it was hard but I am fortunate enough that I got that support. But on that time in the rural areas when I went to the village or in different districts I found that how drastic it was and quality education was far away and most of the students, especially girls, could not go to that school. But we discovered that thing that now many girls are going to the school. But still that quality education for the rural girls are far away.

KWAUK: A big focus of Nasrin's research is on rural girls' education in Bangladesh—we'll dive into the specifics on that later—but I was curious what in her career specifically got her interested in tackling rural girls' education.

SIDDIQA: I had started my career as a teacher. I was the science teacher but at that time my ideal was limited with the urban schools only, I mean Dhaka City Capital. English medium schools. So I am privileged enough that I got different facilities. The governing body was good. I got good principal and environment, community everything. But afterwards though when I came to USA in 2010 as a teacher, science teacher for the program international leader in education program, I found the difference and the way they are using technology, the way they are using the collaborative teaching, professional learning community, learner centered classroom, and gender sensitive classroom, then I went to back to Bangladesh and I got that idea that I have to spread my knowledge not only in urban schools but also in rural schools.

KWAUK: Nasrin explained to me how hard it was to try to implement some of what she learned while in the US as an exchange teacher-leader. Although she was able to start dozens of science and environment clubs across the country, there were many challenges.

SIDDIQA: I found how hard it is to get them project-based learning or learner-centered classroom. Hours after hours the classes are going on, senior students are conducting class for the juniors, or months after months they don't have teacher, good administrator. So it shocked us a lot. And in the same way we found that in that community they have never experienced any science fair or any project or any technology fair, nothing.

KWAUK: So, what did Nasrin do? Through her organization, Education and Cultural Society, she went on to organize science fairs and technology fairs across the country. And through those fairs, she found how interested and engaged girls were in STEM, leading her to her present work and research on rural girls' access to STEM learning.

SIDDIQA: So when we had organized that we found how interested they are and how nicely they can focus their talent. So then we found that it is highly required to give training for the teachers, for the quality education, to ensure good teachers in each and every classroom, especially for adolescent girls who are working with the science and technology in the STEM field. So it is really a great crisis and we found very few female teachers in the secondary level school. So that from then my organization is working and along with other NGOs that they are working too to ensure the quality girls education all over Bangladesh. But still I have to say we have to work a lot.

KWAUK: Next I asked Anil about his home life in Nepal.

PAUDEL: I was born and grown up in a small villages in Nepal, in the western part of Nepal, and it's close to Pokhara City which is quite well-known. And I went to a local school there in my one village where my parents also used to teach. It was a local school community. And the medium of instruction was Nepali. But I enjoyed my school life there playing with friends. Teachers were good. The school was not the best one but even then I enjoyed it.

KWAUK: I wanted to know what first got Anil, as a male champion for girls' education, keyed into issues of gender inequality in education.

PAUDEL: It's mainly like the thing when I was in a school there were not as much girls as boys, and it's not the thing that there were less girls in the village or among the whole population. So yes it was kind of bias, discriminatory practice, sending boys to school and not girls to school. And even if some of the girls were in school I mean mostly boys' parents preferred to send them to high quality, expensive schools.

When I was in school we could play, there was sport materials but for girls there were no proper sports facilities and even like in terms of central facilities it was not good for boys and girls but for girls it was worse. So these kind of school environment itself was not also very comfortable and very welcoming to girls.

KWAUK: So, today, Anil is working in the field of education with his organization, Right for Children, to help change these circumstances, which unfortunately, still persist for girls decades after Anil was in school himself.

PAUDEL: Yes. Back at Right for Children we are an education focused organization. We have different programs around education. So one of the programs that we are doing is called Child Friendly school program. This program is all about making schools welcoming, improving schools' environment especially for girls, because as I said earlier all the girls are not in school. Though the progress has been made in the recent years but the school environment is not very attractive to girls. And we are supporting some schools in improving the environment and making schools a welcoming, safer place. And also a place like where they can enjoy their learnings and also other extracurricular activities. It's not just teaching. Other activities such as music, dance, sports, arts—that attracts children, both boys and girls in the school. We also have other programs such as vocational training program, because we

know all the children are not in school. Some of them might have already left school and some of them never been to school. So this would be something for them and those who are not in the school. So realizing this we started vocational training program for those who are not in the school together with non-formal education and life skill components. And this is to provide them a second chance in life so that they can develop a sustainable livelihood for themselves and for their families.

KWAUK: And it's these second-chance programs under the guise of technical and vocational education and training, from which Anil's current research as an Echidna Global Scholars stems. But before getting into that, last but certainly not least, let's hear from Samyukta from India.

SUBRAMANIAN: So I grew up in different parts of the country and outside India as well. And so my experience going to different schools, learning new languages, meeting new people, it was I think a lot of diversity within the same country, which I think has shaped who I am today. I began with an experimental pre-school. That's where my mom put me where there were children with different abilities in the classroom. And I think that's had a lasting impact on my life. I also think the experience of making friends all over again every two years of your life has also had an impact on me.

KWAUK: Like Nasrin in Bangladesh, Samyukta became exposed to issues of gender inequality early in life. Samyukta shared when she realized, as a girl growing up in India, there were different expectations of what girls could do compared to boys.

SUBRAMANIAN: So when I look back I think about the fact that I learned to play football in one school and then when I went to another school in another part of India I found that the football team had only boys. And while I tried, in my frock I tried to play, I soon decided that I wanted my friends and dropped out of it.

KWAUK: With these kinds of experiences in life, Samyukta's interest in the field of girls' education arose from her observations of similar gender stereotypes constraining the experiences of other girls and women around her, and how they have attempted to overcome such confining social norms. I asked her to share some of those stories with me. The first story about Nancy illustrates how a girl's life can just crumble at the onset of a crisis, in this case after the death of the primary breadwinner in the family.

SUBRAMANIAN: Last year I was part of a film that we were creating around some of the children we reached out to to build foundational skills in numeracy and reading. And we went back because these girls had grown up, so now this particular girl Nancy is in Grade 9. And when we went back she was clearly doing very, very well whether in her community or her school. She was doing wonderful. And we shot that film and a few weeks later unfortunately she lost her father. And she was one of five children and the first thing that their mom wanted to do was to actually take her out of school. That was the first thing that happened.

KWAUK: Samyukta added that Nancy was able to continue her schooling because of her organization, Pratham. Similarly, the second story Samyukta shared highlights the gravity with which gender norms can weigh on even the most educated and successful women. In this story, the woman is one of Samyukta's colleagues at Pratham.

SUBRAMANIAN: The other person who has been particularly inspiring for me is a lady called Anita where I work with very closely in Delhi because she leads the early childhood programs in Delhi

with me. And she is a beautiful person in the way she thinks, the way she works, the way she looks. And this lady is about 45 and she single handedly brought up her brother and people in her family. It was education that got her way where she is today. Her brother joined the police and she has two children and a husband. And she stays with her mother-in-law.

She unfortunately lost her young brother to cancer of a couple of years back. And soon after very suddenly, she lost her husband, which was completely unexpected. And this lady continued to work. There are norms around how married women look in India. There's a lot of typically what you wear, how you dress, who you interact with changes once you get married. And for her I think the sort of questions that she was grappling with--how should I look, what is important for my children, what are the rituals that I want to follow. I've lost my husband but I need to carry on. What is it I need to do for my children so that they don't lose heart? And every question was a mix of what society expected of you and the struggles that she was facing as a person who had lost people who were really close to her.

And the challenge of keeping that brave face for her children and her family and her mother in law who continues to live with her so. So I think that the power that women can bring to a situation when they make up their minds and the sort of adversity that they have to deal with at every step in their life, that has influenced me in a big way.

KWAUK: Such gender norms and gendered expectations launched Samyukta into her current research as an Echidna Global Scholar on how to end the intergenerational recycling of harmful gender stereotypes by preventing them from being acquired in early childhood. Samyukta explains:

SUBRAMANIAN: Many interventions that are geared towards changing the dynamics between girls and boys and actually treating some of the issues, for instance dropping out of school and working with a gender-based violence and supporting girls, are aimed at children in later years.

The roots of such gender inequality begin earlier on in life. Mindsets, attitudes, and behaviors set in quite early. And stereotypes too are formed by age 6. So what I feel is that the interventions that are geared towards girls and boys and their parents too should begin in the early years. If we want to change these mindsets and attitudes and behaviors then beginning early would make sure that there are certain behaviors that don't unfold later in life. So in essence I'm saying that if we look towards creative solutions we do see that in the later years. But if we want to prevent things from happening then we need to begin an early years.

KWAUK: Continuing on the theme of investigating key entry points along the girl's lifetime that can help improve her learning and life outcomes, I turn to Nasrin next, who explains why adolescence is a particularly important period in Bangladesh.

SIDDIQA: Adolescence each age is very, very important because all sorts of skills are expressed in that age. They can take the responsibility, just within four or five years they will go to the job market. Especially if we consider our garment industries, around 90 percent are women and most of them are young women. Still that industry is men-led, so women and girls don't have any higher position there and still they are deprived and frustrated and facing lots of harassment. So if we can make them strong from that age, in the future they can lead that industry along with other industries and they can make a good career path with 21st century life skill and along with other soft skills.

So this is the adolescence age when they have high opportunity. And, unfortunately, this is the age where they face lots of problem. So they are facing the challenges in that age like early marriage, early motherhood. It starts when they are in grade six, seven, eight. So it's a tremendous pressure from family and society, all sorts of criticism against girls. It starts from there.

KWAUK: So, in Bangladesh, women's predominance in the low-skilled ranks of the ready-made garment industry compared to men's predominance in leadership positions within the industry points back to the need to ensure adolescent girls have access to quality learning opportunities, especially in STEM fields, so that they can keep up with the rapid changes anticipated with automation of the industry. But also, so that the soft skills that come along with STEM environments can help them enter the ranks of leadership.

Turning now to Nepal, Anil explains why actually supporting a girl's transition to the workforce is a critical educational entry point in a girl's lifetime.

PAUDEL: I think this period, early adulthood, is very important, very crucial and as well as very sensitive, because this is the time of transition. Transition to adulthood. Not just adulthood, transition to economic life. The onset of economic life and activities. So I think this is a very important time where we need to be very careful and where we need to intervene. And this is also the time where youth start, seriously start thinking about their life their future and also this is the time when they decide which way to go, which career to pursue. And that's why intervening at this age is very important.

KWAUK: It is important to note that in Nepal, only a minority of students actually make it through the education pipeline. Anil's research demonstrates how TVET—or, technical and vocational education and training—could serve an important bridge.

PAUDEL: So only around 20 percent of those who are enrolled in primary level complete second level of education and all these 80 percent they are ignored by the system. They leave school for different reasons—because the parents are not very supportive, they can't afford their education, because the school environment is not very good and attractive. And the big question is what's next for them? We don't have anything in the system particularly to provide them any second chance so that we can prepare them for the world of work, and so that they can prepare their livelihood. They can be prepared and develop their own sustainable livelihood. So that's actually very sad and that's why my research is about providing alternative pathways for those who are out of school and also for those who are in school.

And even those who somehow complete secondary level and even tertiary level, most of them are unemployed. So the education is not helping them for their transition into the world of work. And why? Because the education is not really connected to the need of the market, to the demand of the market. And that's why I am quite interested in studying about the importance of vocational and technical education and training.

So TVET—technical and vocational education and training—has become very important because of its direct connection to the world of work, to the industry. And sadly there are very limited opportunities limited access to TVET in Nepal. Only around 50,000 people a year to have access to formal TVET programs. And you can imagine when the access is limited it's more limited for goals and

my research is actually about finding out the barriers for girls to participate in TVET programs because the girls' participation in TVET is very limited and very low compared to boys.

KWAUK: It's worth re-iterating again: In a country where there are at least 500,000 new entrants into the labor force every year, there are only 50,000 spots in the country's TVET programs. One can only imagine how this bottleneck plays out for girls. What's interesting about Anil's research, though, is that he's not calling for just any kind of TVET.

PAUDEL: Yes, I am talking about TVET, not just TVET but gender transformative TVET because to ensue equitable participation of girls and boys in all different types of TVET programs. So right at the moment there are also a few girls in TVET programs, but the participation is mostly concentrated in what we call a gender stereotypical occupations and courses such as nursing and caregiving. So these social norms and the belief, the widespread belief, that TVET is mainly for men and the technical occupations and technical courses they are mainly for men not for women. So these kind of belief and norms are restricting girls to participate in different choices of TVET programs.

So I am actually advocating for this to have a gender transformative TVET so that girls have more choices like boys so they can go for engineering, they can go for agriculture, they can go for I.T., and other different courses and occupations.

KWAUK: In fact, Anil's organization is helping girls transform Nepal's hospitality sector, which has been traditionally dominated by males due in part to its lucrative employment prospects both in the country and abroad.

PAUDEL: Recently Nepal is doing great in the hospitality industry. So there are a lot of hotels and restaurants being opened up as every year more and more tourists are attracted to Nepal. But the sad thing is that at the very least training institutes and programs to train, to provide skill, to produce a skilled workforce for the industry and the hospitality industry. And even when there are some it's mostly you can see boys in hospitality industries, for example such as in cooking. But at home if you see it's mostly the woman who do all the cooking. But in the industry and the restaurants and hotels it's almost 100 percent are all men who are chefs, who are cooks. So we need to include women and girls. So we need to provide these opportunities, the opportunity of employment, the opportunity of training programs and education to them as well. And then also the industry, the market has to be welcoming. So right now it's quite biased against women. So we need to break that and we need to increase and attract girls and women in these occupations in this sector.

So we have a vocational training school, which is specialized in hospitality.-Currently we offer three different occupational courses like chef, housekeeping, and FNB [food and beverage] services. And we make sure that at least 50 percent of our training participants are girls because we want to promote the girls, we want to provide opportunities to girls.

And we also not only provide training we also make sure that these participants when they complete the training program and become graduates they are offered a job. So we also help them in finding placements. And so we have been able to place more than 90 percent of our graduates within three months so far. And especially girls, in their [] like only adult adulthood, they are benefiting more from these programs.

What we have learned over the years, those youth that we have trained and placed them in employment, girls are actually doing great, they're doing greater than boys. So in terms of retention, in terms of their career growth and progress. So I have some examples for you. We have been training a lot of girls. Those without school. Who are not in schools. They might have been in school like for some years but when we brought them into the training they could hardly read and write, and we provided them non-formal education classes together with the vocational training, the I.T. skills, life skills, and also helped them to find a job after the training. And some of the girls they have progressed in a way when they started they would just like general worker, for example in the case of housekeeping, they started as a room boy, room girl. And now some of them have become supervisors and executives. And that that is also something that has encouraged us to do more.

KWAUK: When it comes to STEM, it is commonly believed that the greatest barrier for girls is girls themselves—that they're not interested in STEM or that they're not good at or capable in STEM subjects. Nasrin explains how she was surprised to find quite the opposite—that girls had high aspirations for STEM studies. Here, she describes what some of the girls in her research expressed to her:

SIDDIQA: If I could meet an astronaut in my life, if I could know where the women are working for STEM, and if I could get Nobel Prize in future, and just if I could get a library in my school, I want to know more about this. So I will see that they have dedication, they have passion, they have dream, but they are not getting support. So it is not their fault that they are not getting enough facilities and they are not going to the STEM career because some girls say that we have no dream because we are not capable of that dream. My brother is going to the university but I know I even will not be able to compete my grade ten. But if I could get the opportunity we've found that how much enthusiastic they are that can we attending a science club.

So when we had formed the science club we see that either as a president or secretary we will select a girl for the Science Club. At first feel shy but they were very much interested. Then after a few months when we went there to see that how they are organizing their science fair in their school, we found that that girl is talking in front of the microphone, leading her teams. We found that the leadership, then the change in her. So how could I say that they are not interested? Just they are not getting the opportunities.

KWAUK: So, just what is the problem for rural girls in Bangladesh, then? I asked Nasrin to paint me a picture of what a typical STEM classroom might look like, or what a rural girl would experience if she wanted to pursue a STEM field of study.

SIDDIQA: I can give you the scenario of a classroom that we went there and there is no teacher. A senior grade student of Grade 9 is conducting that class of Grade 7. And I asked them the question in the focus group discussion, they talked with us, and they say that no I have examination after a few days, I'm going to pass from my school but still I don't know what is the computer technology still in the textbook. We always memorize and write in our examination paper. So we asked about their teacher, so they say that months after months we don't get that teacher. And if any teacher is there he or she conducts several classes of several subjects. So our science teacher he is conducting that class of geography, art and design, even English language.

KWAUK: The challenges with teachers that Nasrin raised here merely scratch the surface of deeper institutional challenges when it comes to rural education in Bangladesh. She went on to illuminate how a formal education system in which teachers are not only underpaid but also inconsistently paid has led to the creation of a private coaching system.

SIDDIQA: So we found that in the classroom, 150 students are there and multiple classes sat together. Teacher is teaching them but it was a chaotic environment because he or she cannot control the students. And the students are roaming in the field, they are talking. And teachers said most of the students after a few days when they are Grade 9 they don't come to the school. So we asked, where do they go? So they are supposed to go to the private coaching business, a private coaching center, it's a business type for all teachers because they get very poor salary from the school. So they insist the students to go to the coaching center.

So we ask the students do you get sufficient teaching there? So this said our teachers are really good when we go to the coaching center. So they teach well but they are not good enough in the classroom. We don't understand a single chapter. And for the math teacher some of the girls say that, yes, they start the lesson but they never complete it. Not only math, for science and other subjects as well they state that they never complete that in the classroom, and they insist us to complete the rest of the lesson in the coaching center. But it's a huge burden for the poor parents.

Most of the rural parents said they are from garment industry worker, or laborer, day laborer like that, but it is not possible for them to pay for individual subjects like physics, chemistry, mathematics, biology. It is really hard for them. So they are suffering a lot.

KWAUK: So, teachers aren't teaching STEM in the classroom because they are overloaded with other subjects, their classrooms are overcrowded, technology is in the textbooks rather than inside the classrooms, and they're getting poorly and inconsistently compensated. It's no wonder teachers push students into their private coaching centers, which, as Nasrin pointed out, is quite cost-prohibitive for rural families.

But just as teachers serve a critical function in improving rural girls' access to STEM education in Bangladesh, teachers also featured prominently in Samyukta's research on early childhood education in India. Here, Samyukta explains how teachers play an important role in the young child's ecosystem, serving as the bridge between home and school.

SUBRAMANIAN: Having worked in the sector for so long I feel like it's the teacher in that ecosystem who's probably the closest to the parents and can actually change the norms and the practices around early childhood education, if we want to change gender dynamics at this age.

So what I mean by that is the teacher needs to look at what's happening in the classroom but she is also the person who needs to be connected with the mother so that they are constantly in dialogue about what's happening and what's possible. And she needs to be talking about this both for the girls and the boys at the preschool age. And this probably requires us to reimagine the role of the teacher. So if she is going to be the bridge between the community and the classroom, between the children and their parents, or between our present and our future, then we need to think about how to work with her so that she can actually execute this task of tremendous importance.

KWAUK: So what does this mean for your research?

SUBRAMANIAN: As part of my research here at Brookings I'm trying to explore how to look at early childhood education with agenda lens. What I mean by that is that the preschool child is in the classroom where there is a teacher. He or she has parents at home. There's a community. And there are many adults in that ecosystem who influence this child. And to look at each of these pieces which come together as a whole for the child in order to see what it means to have a gender-transformative approach in early childhood.

KWAUK: So then there's the teacher, but there's also the parents in the ecosystem. What did you learn from your research about this ecosystem?

SUBRAMANIAN: We found that in a city like Delhi, which is the capital of the country and where the exposure levels are quite high, we found mothers saying that they want their children to go to school. Everyone was saying girls and boys should go to school. They should have equal opportunities. Men and women are equal in this world. And yet when we went and saw the practice of what mothers were saying in their homes—which means when we saw what preschool children were playing with, what girls were playing with versus what boys were playing with, or whether the fact that girls were playing inside homes more often as compared to boys—we found that there's a gap between what people are saying and want to believe and what they are practicing. And I think it's this gap that we need to bridge.

KWAUK: The opportunity to bridge this may be now. In fact, Samyukta's research comes at a very important time in India's history. Here, she explains.

SUBRAMANIAN: I'm very excited that there is a draft national education policy which has come out this year. Chapter One actually begins with early childhood education. And it talks about early childhood education being the foundation of learning which I think is a great start for a policy. It goes on to talk about extending the right to education to the preschool age group. What that means is that we have a Right to Education Act which makes education for all children in the 6 to 14 year age free and compulsory. That means that no child can be denied admission into a school, every child must attend and complete eight years of schooling, and there would be no financial barrier that can stand in the way of the child and his or her schooling. To extend this to the three to six year age group means that the same rights, the fundamental right to education, gets extended to this age group. And that is something that everyone has been very keen to say learning begins by age 3 so why not extend the Right to Education Act to these years. So I think that's fantastic.

KWAUK: While she says this is fantastic, the issue for Samyukta lies in the structures of delivering universal pre-school.

SUBRAMANIAN: So there are government schools and many of them may not have preschools within them, and there are community based preschool centers in India which we call anganwadis. And both are expected to reach out to children in the preschool age group. So the policy is saying we need to expand the number of preschools within schools. It's also talking about co-locating anganwadis which are typically in the community into schools. And so I think the objective is to reach out to every child in whichever way possible.

KWAUK: So, in an attempt to reach every child in whatever way possible, Samyukta worries that shifting from a model of community-based pre-schools to pre-schools within primary schools may have

its toll not only on the nature of the pre-school learning experience for young children, but also the relationship between parents and pre-school teacher.

SUBRAMANIAN: With little children, their connection with parents is extremely important, and with parents in communities their connection with teachers is really important. And this connection, we have been able to work on this connection with anganwadis which have been in India since the 1970s. And we have been able to see the sort of connect that the teacher forms with both children and parents because she is located in the same community. What happens when this moves into a school is something that we need to look at. How do teachers step out of the school to reach out to parents, or how do children walk into huge spaces in schools? How do we prevent traditional formal education where the teacher is in front of the class from happening with preschool children who need much more interaction, handholding, working together? I think all of this has to be thought through. If we really want early childhood education to take its rightful place.

KWAUK: There are also implications for how early childhood education can be leveraged for gender transformative learning outcomes for girls and boys if the parent-teacher connection is weakened by shifting from anganwadis to pre-schools within schools.

SUBRAMANIAN: If we want the interactions in the classroom and the interactions between the mother and the child, and the teacher and the child, all to change in order to bring about gender transformation then how will this be done in a school setting is something that we need to think about. In the anganwadis I feel that the connection with the parents or the mother is there for different reasons. And so we need to look at what are the practices in the classroom and at home that need to change. But one already has the agent of change in place. And I think in schools that's the part that we need to think about.

We also need to look at how many teachers are men, how many are women in schools. In the anganwadis all our teachers are women. So for instance in Delhi where I work with the Delhi government in the anganwadis setting we have 10,000 anganwadis teachers, all of them are women. What happens in schools? How does training take place? And how do we ensure that the gender sensitivity in this space? We are in a very nascent position vis-a-vis that and we need to think about it.

KWAUK: When it comes to thinking about how education can help to realize larger educational gains for girls, Nasrin's work in Bangladesh is a perfect example of how improving girls' access to STEM education is more than just teaching girls about STEM subjects, but rather opens the door to a higher quality of education. Here, she explains how the science clubs her organization spearheaded, with the help of some small seed funding, helped girls acquire more than just STEM skills.

SIDDIQA: I can give example of one of the school and that they made the environment friendly oven with the low cost for the rural women. So that was a good business for them as well. With them they are running their science club. And when we went there to start the Science Club initially we had selected 20 students as the club members. After a few months we went there for the monitoring that how the science club is going on. We found more than 450 students in the Science Club.

And they did some very good work that the once there was a brick field was making by some of the community leader in front of their school. They found that it is really harmful for our environment and for the school kids. They made a protest, and they made some banner or poster, and went to the

high office of government people and ultimately government was bound to stop that thing. That was the strength of the Science Club. And most of the female students led that thing.

And we found one school that said that we don't have any field in our schools so we can do the rooftop gardening with that money. With that small amount of money what they did they just did a great project. They made the rooftop gardening and also the mushroom culture on their rooftop.

And another school this they did that in front of their school pond they had started organic vegetation. After one year when we went and we got an invitation in their state fair. So we went there with some high officials and we found that they didn't stop that project there. They are continuing it and they are selling vegetables so from that garden with a little bit of higher price to that audience and getting money and they are running different programs. And they had organized the science fair also and most of the money came from that project. So that these are tremendous change with the small initiative we could do and we saw that what can they do.

KWAUK: In thinking about next steps, Nasrin plans to take her research findings on the three levels of barriers to STEM education for rural girls, as well as her recommendations, to not only engage key policymakers, school administrators, NGOs, and community leaders in dialogue, but also use these to inform her own organization's practice and reach.

SIDDIQA: This STEM class, science club, it was a very successful program so we will definitely continue it. We could reach only few schools I have to say, but we have to spread it all over Bangladesh. And continuous teachers' and administrators' training are highly required. We have to give this message and continuous pressure on policymakers that we have to have corruption-free education system. And teachers' recruitment, administrators' recruitment should be definitely very fair because an administrator is a very vital factor to running that school.

So the first thing what I have planned from ECS, we will continue this teacher's training program. We will continue with the teacher exchange program and student exchange program so rural teachers can go for a certain time to the urban schools, good quality school, to know and observe that how they act teaching what is their teaching policy. Not likely that urban teachers will be fixed with the good students and good schools only. They can also come and teach the rural students, rural girls. And the rural girls, rural students can go and visit the urban schools as an exchange program and then vice versa. The urban students can also come. And that would be a great exchange of their life skill as well, because we know that rural students have good life skill of mathematics, technology, in the same way urban girls they know how to swim, they know how to lead life, how to take the challenge. So ECS will definitely continue working with the policymakers and government and other NGOs to make a very good educational curriculum.

From my experience I have observed what our women can do, they have high inner potentiality and courage and strength. With a very limited resource that I have to say very limited food and support but they brought change to Bangladesh. They made a Bangladesh from poor status to the developing status and the maximum credit we have to give to our garment women worker. And now they are facing the challenges but I'm sure that if we can give them proper support, especially if we can give support with our rural girls, especially with the STEM skill and knowledge, I think they can fulfill the dream of Bangladesh to be the middle income country by 2021, high income country by 2041, and they can enforce Bangladesh economy and we can get a very smart, well equipped, good generation in future.

KWAUK: And what are you hoping to do to bridge that future with rural girls in Bangladesh today?

SIDDIQA: So some short program, bootcamp, and training. So if we can train those girls so I think in future they can work for those industries. And career girls club is also highly required so we can bring some models who are already established in STEM field and we can organize some station and training for our girls and we will continue some research that what is excite demand for our future job, where our girls need to fit, whether they need to be doctor or fashion designer or they need to be engineer so that if we have a clear distinction about that. Which one is the demanding our job fit so that it would be easier for our policy makers to make that decision. So I think yes we'll continue with this job.

KWAUK: Anil's plans are to reach out to government, civil society, NGO, and private sector stakeholders to re-envision and increase investment in alternative educational pathways to the workforce. To do this, he explains how stakeholders need to approach solutions to technical and vocational training through the A-C-T, or ACT, framework.

PAUDEL: My recommendation is based on a framework called ACT. So the first one is A, the access to TVET, improving girls access to TVET by empathizing and utilizing TVET and by increasing investment in TVET. To expand TVET both in size and choices. Exposure to labor market quite early in life so that they know about different occupations and different careers for the future.

The second one is C, which is about completing, helping girls to complete TVET programs by intervening to change the persisting social and gender norms by partnering with and mobilizing NGOs and media communities.

And the last one T, which stands for transition to work. So we need to help girls for the transition to work after the training program by creating a strong training industry linkage by collaborating with the private sector, and also by improving labor market regulations, and labor policies so that labor market becomes welcoming and free of gender bias.

KWAUK: In thinking about bridging such policy recommendations to practice, Anil had some ideas of what he would do through his organization to begin seeing changes on the ground.

PAUDEL: When I return back I think the most important thing for me to do is to communicate the findings of my results to relevant stakeholders. To develop network, an alliance, so that we can collectively influence for this change. And the other thing is we have got this opportunity to create and provide a model that works best for both girls and boys, especially talking about gender transformative TVET. So we have this opportunity to provide an example to the rest, to the garment and other organizations involved in this sector. So I will also be focusing on that, that will also be my priority.

And together I will continue working in the field of education, especially in the field of girls' education, especially in making education gender transformative, making TVET programs gender transformative. So yeah. So I look forward to that. Quite ambitious but it is what we need to do.

KWAUK: For Samyukta, returning home will mean returning to the early childhood curriculum that she helped develop, and to see how she can revise it so that it achieves the goals of a gender transformative early childhood education that her research at Brookings has envisioned. Here she is.

SUBRAMANIAN: We were part of the curriculum that we created with Delhi government in partnership with the Delhi government when I was working on what we need to do across 10,000 anganwadis. We created a curriculum in partnership with them. And that curriculum when I look at it again now I feel like there is a lot more that can be done there. I feel we need wide exposure to role models, role models who may not be in the existing ecosystem but role models that children can aspire to. And teachers can use stories of these different kinds of role models to open it out in the classroom and question traditionally held assumptions and stereotypes around gender that children and their parents may be coming with.

And I hope that when I go back home I can demonstrate in partnership with the government in a sort of a live laboratory what I mean by agenda transformative approach in early childhood education. So one would of course be to look at the curriculum which we designed one of which I was a part but also to put into place many of the things that I'm suggesting and looking at how we can overcome some of the potential challenges that we think will come up in the setting where I work. So I'm really looking forward to not only the recommendations that have come that I am making but also how does that look in practice so that the next time we talk I can actually maybe share more with you on how that looks.

KWAUK: Before closing, I asked Anil one more question: You have two very young daughters. I'm curious since you talked a little bit about your own education as a child, and then the education status of girls in Nepal today, what are you hoping to see with Anushree and Anushree's education over the next decade and a half?

PAUDEL: Thank you very much. I think this is a very important question. As a parent, as a father, I will support them in whatever way I can. But the choice is theirs. When they complete school in whatever field, whatever course they want to pursue, and whatever occupations they want to pursue in future, it's their choice. So I won't intervene in that, but I will make sure that they continue their education. I will be responsible in creating that most fair environment. But in pursuing the choices, pursuing the career, I will leave it up to them.

And so yes, I know it's quite difficult. I may have to fight with the current system. The gender bias, the social norms, gender norms. But for me, yes I'm ready to fight with that. And I would give all the best options and possibilities that are available to my daughters.

KWAUK: And with that, I hope our listeners have enjoyed hearing about the lives and work of our ninth cohort of Echidna Global Scholars at the Center for Universal Education at Brookings.

This year's scholars illuminated for us the importance of looking across the girl's lifetime to achieve gender equality in and through education, starting from the early childhood years with Samyukta's research in India, through adolescence with Nasrin's focus on STEM education in Bangladesh, and through to the transition to work with Anil's study in Nepal.

Importantly, each scholar isn't promoting a quote, "add women and stir" approach to improving girls' learning outcomes. On the contrary, their work highlights the importance of addressing the underlying gender and social norms that drive gender unequal relations of power in and through education, which then go on to drive gender unequal learning outcomes that negatively affect girls' and women's life outcomes.

As the girls' education community begins to lift the bar higher from a vision of gender sensitive education to a gender transformative education agenda, the Echidna Global Scholars provide us with a glimpse of what it will take to bridge research to policy to practice in a way that will have meaningful impact on girls' lives.

To learn more about the Echidna Global Scholars Program, and to read the reports and blogs from the 2019 cohort—or from previous cohorts—please visit the Center for Universal Education on the Brookings website at brookings.edu/universal-education.

DEWS: The Brookings Cafeteria Podcast is the product of an amazing team of colleagues, starting with audio engineer Gaston Reboredo and producer Chris McKenna.

Bill Finan, director of the Brookings Institution Press, does the book interviews and Lisette Baylor and Eric Abalahin provide design and web support.

Our intern this fall is Eowyn Fain.

Finally, my thanks to Camilo Ramirez and Emily Horne for their guidance and support.

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Until next time, I'm Fred Dews.
