|  |  |
| --- | --- |
| **Interviewer name** | INTERVIEWER |
| **Sub-contractor organisation** | ARU |
| **Interview date** | XXXX |
| **Duration of interview audio recording** | 1hr 8 mins 33 secs |
| **Face-to-face or virtual interview** | Virtual |
| **Interview participant** | |
| * **Code** | I2 |
| * **Participant name** | XXXX |
| * **Organisation name** | XXXX |
| * **Gender** | Female |
| * **Stakeholder category** | Researcher |
| * **Country** | India |

INTERVIEWER: Hi, XXXX. Good Morning.

RESPONDENT: Hi, good morning XXXX.

INTERVIEWER: Before we start, I would like to check a couple of points, okay? I would like to check that you’ve completed and returned the consent form.

RESPONDENT: I did.

INTERVIEWER: And you state within the interview some points. So, have you completed and returned the consent form?

RESPONDENT: I did, yeah. I just emailed you right before the interview.

INTERVIEWER: I have received it. Through this interview we would request you to share your experience and expertise as someone working in the energy sector, as well as your views and opinions on gender equity in energy access. Is it okay if we record the interview for our documentation purposes?

RESPONDENT: Yes, that’s fine.

INTERVIEWER: The recorded interview will be transcribed for analysis and a copy of the transcript will be shared with you for your approval.

RESPONDENT: Okay.

INTERVIEWER: All the information we obtain serves the sole purpose of the study and will be seen only by the research team. Your name and other identifying features will not be used anywhere in reports and other publications emerging from this study. The interview will take more or less around one hour. Is that okay?

RESPONDENT: Okay, yes, yes.

INTERVIEWER: Can I just- thank you so much. Can you start by briefly telling me a bit about your current role, position and the organisation and department you work for?

RESPONDENT: Sure, okay, so I’m a XXXX at XXXX, and I’m with a group within XXXX that’s called Initiative on XXXX. I specifically work on policy matters related to energy demand. Most of my work is focused around trying to understand the changing residential energy patterns in India and through my work trying to identify interventions that can help make the change- the changing energy- residential energy consumption more energy efficient.

INTERVIEWER: Okay, great. And how long have you been involved with energy issues?

RESPONDENT: So, I did my PhD also in XXXX so if you count that then about XXXX years. And if you don’t then about XXXX years.

INTERVIEWER: And what specific energy related programs or activities have you undertaken within your work?

RESPONDENT: Sorry can you repeat that?

INTERVIEWER: What specific energy related activities or programs have you undertaken in this work that you do?

RESPONDENT: My research is around energy- sort of energy- XXXXX. I also have experience in field work through my current work at XXXX and also where I worked previously- so implementing projects on ground, doing surveys, trying to understand energy patterns and users. So, I would say a mix of, sort of, policy analysis and field work.

INTERVIEWER: Okay, right. And how much does energy access feature in your work- in the sense objectively have you worked on energy access within your work?

RESPONDENT: I think, only that you and I also had this discussion earlier about what we mean by energy access and sort of most literature and commonly energy access relates to sort of, access of energy and electricity in rural areas. So, though I’ve studied energy access in rural areas I’ve not directly worked as yet on rural energy matters, my work has focused more on energy- how electricity is used in urban India. I’ve done some work on urban slums but mostly sort of- current work focuses on households in Delhi and, yeah.

INTERVIEWER: Okay, okay.

RESPONDENT: So, I’m not quite sure, sort of, I know you also think of energy access more broadly, but how it’s popularly talked about is in rural context. So, I haven’t directly worked on rural energy access.

INTERVIEWER: Okay, right, right. So, would you have noticed differential energy access in your work field?

RESPONDENT: Mhm. Sure. Yes

INTERVIEWER: Have you noticed- you could elaborate on that.

RESPONDENT: Yes. So, some of our ongoing work at XXXX tries to understand cool- how cooling is used in households in large cities in India, and our work is focused on Delhi. And we studied relatively wealthier households, even within Delhi. So in Delhi the penetration of air conditioners is the highest in the country- and even within- in Delhi we studied areas that have above average penetration of air conditioners, so these are relatively wealthy areas in Delhi, and what we find is that even within this sort of homogenous group of households and areas the access to cooling is quite wide-ranging so while close to half of our samples had air conditioners, there was 20% of the sample that still just had fans, so you know- if we talk about cooling the- it- and if we talk about across India, the access to cooling is you know, quite different, right? We have still areas where people don’t even own fans and then, even in large cities which have high AC penetration there are still households that own- just have fans to keep cool- and we know that in, in, in hot summers in very hot cities like Delhi, fan does not really mean cooling, right? So quite heterogenous access to cooling across India and even if you look at a very focused- very focused communities, very homogenous communities- you still find quite a bit of heterogeneity even amongst them.

INTERVIEWER: Within the homogenous groups that you were talking about- like the more affluent urban Delhi residents who can afford air conditioning- within that have you seen any difference in access? Let me just qualify what I mean like what functions or what people access cooling and what kind? Do you see any differential access in that?

RESPONDENT: So yes- so- as I said if you talk about ownership, you know in groups where say half the people own fans and these are all sort of you know, people who are in very- we’re talking about very homogenous geographies within Delhi, there are still about quarter of this- quarter of the households that just own a fan, what we found was that the activity that was most, sort of favoured when we talk about cooling is when people are resting or sleeping. So, people who have, sort of, air conditioners- the most common time that they end up using air conditioners is when they are resting- but then when we look at households that use air conditioners more than the rest of the sample, we start seeing that, you know, they’re using air conditioners to entertain guests, they use air conditioners when they’re working from home. So, the type of activities that they’re using the air conditioner for or the more intense cooling appliances for starts increasing. But the- most popular thing people use air conditioners for is for resting. So, if you were trying to limit the number of hours you turn on you air condition for- you would do it when you are- sort of- right before you go to sleep in the evening. That was the most common time we found people using air conditioners. Also, what we find is that we found a very strong relationship- sort of- between people who have air conditioners at their workplaces, they end up using ACs more at home. So, you could say that people who are more accustomed, more habitual to air conditioners we see that they end up using air conditioners for longer hours when they are at home.

INTERVIEWER: Interesting. Also, the same access issue, have you seen it within say, policy level because you work at policy, and any electrification programs, tech projects- technical projects have you evidenced or noticed certain differential access issues within the planning and policy level or project design level?

RESPONDENT: So XXXX, if I may- sort of- again broaden what you mean by access to not just like ownership of appliances but if we talk about ownership of more energy efficient appliances- so access to more efficient energy, I think that is also what we are looking at- is who are the people who tend to go for more efficient appliances, use their appliances more efficiently and we- what we find there is- and this links to policies and programs is that people who are more aware of governmental programs around energy efficiency, so you would know that Bureau of Energy has the Standards and Labelling Program but across studies, it’s very you know, sort of very common knowledge that very few people are aware of these programs, so people don’t know what the Star Rating program is- even people who know of what the Star Rating program is, very few know what it means. So, they would not have seen the stickers on their refrigerators- of the people who have seen the stickers very few know what it means. So there is different levels of awareness and as you go deeper into how aware the people are you start seeing very, very few people who are aware and know what these programs are- and what we find is that the people who are aware of these programs tend to invest in more efficient appliances so I think one of our recommendations is to really, you know, think through and drive awareness campaigns more aggressively and to target them towards women because we find that, you know, very few people are aware and women are even less aware than men about these programs- and sort of- around energy efficiency so-

INTERVIEWER: Okay, okay. Even within the demographics you’re working with where I would assume that there is a level of education in the women…

RESPONDENT: Yeah, so. You know this would be a relatively educated group of people compared to overall average across the country but the levels of awareness about the programs- the energy efficiency programs that the government has, the utility has is still very low, and lowerer in women than compared to the men.

INTERVIEWER: That’s interesting. So, I also wanted to ask you like coming from this access to efficient appliances- so you’re also seeing that people who are more aware would demand more efficient appliances and so policies and tech programs and standardization programs would be supporting that demand- did I understand you right?

RESPONDENT: So yes, so you know governments and utilities have different types of programs to drive energy efficiency- one is awareness and then there are different sort of schemes that provide different financial incentives to- so that people can buy energy efficient appliances in a more affordable manner- so it’s- it’s – we- I think- when we look at levels of awareness – we asked about different programs, but we specifically asked about the most popular program, which is the Star Rating program.

INTERVIEWER: Okay. And you felt that there was a lack of awareness in that.

RESPONDENT: You know, I don't remember the numbers off top of my head, but there was a very small fraction that knew of these programs and knew what they meant.

INTERVIEWER: So, I'm also talking about it for example, like when you talk about efficient appliances? So, there is - there are - the star rating is there for air conditioning, the star rating is there for fridges. But then there is no, at least maybe I'm not aware of, but there are no standardisation of say, kitchen appliances like say mixer grinder. Right?

RESPONDENT: I have - just give me a second. So, I don't remember about mixer and grinder but how stand- this program works is there are - there is a list of appliances which are, are under the mandatory category.

INTERVIEWER: Yeah.

RESPONDENT: So, they require- they have they- it's mandated that all appliances, you know, go through this program, and have a sticker, which shows what the rating is on them. So ACs and refrigerators are under the mandatory list, then there is a list of programs which - appliances which are under the voluntary list. So, it's voluntary for them to put the sticker or not. And an example of that is fans. Over time, some of the appliances under the voluntary list move to mandatory. I think fans is one of such appliances with- that is planned to move to mandatory in, in the near future. But then there are appliances which are not in either of the lists as of now. So, there is no standardization that exists - voluntary or mandatory for them. Coolers under cooling appliances is, is a appliance, which is in neither of the lists. So, I don't remember about mixer grinder, but we'll have to check about other appliances. I'm pretty sure they are not under the mandatory list. But whether they are under the voluntary list or not.

INTERVIEWER: I mean, I was just wondering about, you know, I know your work is more with cooling. But I was just wondering about, you know, the various kitchen appliances or even a washing machine and, you know, any of these things, how many of them have to be standardized.

RESPONDENT: I thin we could look up pretty quickly on, on the website, they have a pretty neat list of-

INTERVIEWER: Okay.

RESPONDENT: -which appliances are there. But we- I haven't looked into, sort of, the pen- where they are and what the penetration is. Because they're also less commonly found in households right now across India. So, even in, you know, when people look at penetration of energy efficient appliances in households, what we find is that the- only the penetration of mandatory appliances is high, even in voluntary appliances, for example, fans, I think, across India, some 7, 8% of the fans that are sold are star rated. So, it gets very, very small when you start looking into these other appliances.

INTERVIEWER: Okay, interesting. So-

RESPONDENT: And I can send you a link offline – of - of the list of appliances that follow in these categories…

INTERVIEWER: Sure, sure, that would be great. Thanks a lot. One more thing is, I mean, so do you think that there is some kind of policy level context with the shaping - the work of- I mean, this- at the national and state level? What is the policy level context for the work that you're doing?

RESPONDENT: Can you- can you just elaborate on that question?

INTERVIEWER: Like, like, you were working within the policy framework, right, and- when you were studying cooling in residential environment in Delhi, and how does the present policy- government policy context impact the work that you're doing? As in are there certain things which you think are good supportive things from the policy level interventions? Or are there major gaps which policy needs to look at?

RESPONDENT: Sure. So, XXXX, as you said, there is you know, there are policies at central level, there are policies at state level, and also in case of electricity, what plays a role is the kind of tariffs and pol- and programs the utility has- the electricity company itself, which, in Delhi and other places is also privately owned so it's not government, of course, it's regulated. So, I think, in, in the residential sector, in specific until very recently, there was very- there is still very little information that tells us how people use electricity, what appliances they have - some appliance related information we have from the National like NSSO surveys, which were done now 10 years ago, we don't have new data, but apart from even ownership data that dates to 2012 timeframe, we don't know anything about how people use. So, there is no sort of publicly available- or we don't have that information. I think there is now- I think there's still a need of like that national level type of survey, which really tries to understand what appliances people have, what are the efficiency levels, how people use it. And that really helps shape policy. So, I'll give you an example. So, when we make projections of how energy demand is going to grow, within it, we make implicit assumptions of what the baseline is and what the trajectories are. My experience is, at least from my understanding, currently, those projections are based on very little empirical evidence, right? So, I think modelling and projections is at the very basic of trying to understand what the demand is, how it is going to grow, how do you meet that growing demand, how do you make that energy efficient. So, I think- so that's one, I think there are several - there are gaps that need to be filled to make that modelling exercise more informative. And then I think- so, you know, governments and utilities have these programs on where they try to make demand more efficient, I think there are you might have heard of EESL energy- Energy Efficiency Services Limited. So, they have this bulk procurement program like the Ujala LED program that was very successful. And we do see that the LED penetration in India has really increased and in urban India is, is, you know, almost sort of, it's quite, quite successful. But we need such programs for other appliances, which are rapidly - that households are investing in, right? Fans, coolers, ACs we do have, I think EESL has programs- they had a, they have a fans program, which I think they still have out there. They have an ACs program, but not- not at the scale that that's needed, right? So, I think policymakers benefit from having more ground data, and then- and, and seeing- so for example, we have some data on penetration of energy efficient appliances, but we have very few data of how that performance differs from state to state from region to region. And what are the reasons if we do see a difference between- a difference in regional penetration, why is that happening, right? We do need data to inform and further sort of strengthen these policies. So just - just a couple of examples, as I mentioned, you know, we need more data, more empirical evidence to make stronger, sort of, projections make our models more informative, help our current programs and initiatives around energy efficiency be more focused, and targeted, right?

INTERVIEWER: More- better targeting and more realistic policymaking.

RESPONDENT: Exactly, yeah. And I think we talked about this earlier, like our work looks into how gendered is cooling, right? So overall, as a country, we understand very little how households are using cooling. But even within that, what's what role are women playing in this decision making is extremely- I would think there is hardly any information out there. In our study, we look at that, of course, in a - in a in some limited geographies, and we find that the role of women in both decision making and their level of technical knowledge about appliances, about energy efficiency is much lower than men. So, I think that's another area that needs to be first understood better, and then sort of plugged in to policies that are coming out.

INTERVIEWER: Very interesting. So, what does equitable energy access mean to you? I mean, how do you- how would you define it?

RESPONDENT: That's a very good question.

INTERVIEWER: What do you think- it would look like?

RESPONDENT: I think so, so I think- I think that is a very, it's very hard to just say that in in a few lines. Because I think there is a lot that's going on within that question, right? Like, what do you mean by equity? When you're talking about energy access? Does- does everyone really need to have an air conditioner and a washing machine, right? And I think the answer for that is no. And I think some researchers I know, at XXXX, for example, have done some work on what are- what is sort of this- decent standards of living, right? So, what- what type of energy services do people need? So, people might not need an air conditioner, but they need some relief from heat stress. So that could be done in many different ways, and not just air conditioners, there are different ways you could construct houses, there are different interventions you could do within the building design that reduce the need for that active cooling, right? So, I would say, I think we need to understand what energy services do different people need, what that - how that requirement differs, because I think that is very context dependent, right? How, how- wha- what does the urban planning look like, what does the landscape look like, you know, the services required in an apartment building in Bombay is very different from I would say- so not just climate, but how- how a city is built up where people are living that would define what energy services they need, and then, you know, to be able to provide those energy services in the most energy efficient low carbon manner, I think I would say that is, is equitable and sustainable energy access. So not - not thinking about appliances, but thinking about what - what do people need?

INTERVIEWER: Yeah. Okay. So, you're saying that it's more about understanding, what is the core actual need? In the sense that - not AC but cooling, right?

RESPONDENT: Yeah, what is the energy service requirement?

INTERVIEWER: Yeah, yeah, right. Yeah. Right. And within this question, what does gender equity in energy access mean to you? So, I just want to give you one little thing, because you mentioned washing machines in the same breath as AC-

RESPONDENT: You mentioned washing machines.

INTERVIEWER: No, I mentioned washing machines in a different way, because washing machines is considered to be within the gender labour paradigm, it is considered to be an appliance which reduces a substantial amount of labour for- which is considered women's labour. So that is why we are curious as to how the washing machine is being thought of, right? As- as an- as an appliance, which should be energy efficient, or an appliance, which should be affordable, or an appliance which should be accessible to more number of women so that they can reduce a huge chore into a simple chore, you know, so that's, that's the conversation. So, within this energy access, where you're talking about us defining the needs rather than the appliances, where does gender equity feature- for you? I mean, what - what does- what do you understand when we talk about gender equity in that question?

RESPONDENT: XXXX, I would start with a- just a note here that I am not an expert on, on gender equity. It's not and you know, that like I, like I work on energy policy. In our work, we have tried to understand the gender role within cooling, but I'm not a subject matter expert on- on gender.

INTERVIEWER: That’s absolutely fine. I'm just asking for your opinion here.

RESPONDENT: I think I would say that, you know, it is -I would just tie it to my earlier response that it is, you know, equitable access to the needed required energy services. And, you know, and it could be that the- so there are certain energy services that a household needs, there are - it could be within that some energy services that are particularly desirable or needed by women. It could be- there are energy services that are specifically required so say- for kids who are going to school - so I think we need to understand what are the energy se- services that are required in a household, maybe map it to, you know, what kind of roles does that map to, and, and then looking into providing those services right? Like so, to a person who's not a subject matter expert, I think I've looked at this most in context of, you know, a clean cooking, right? because women are, sort of, most in- sort of, I think the cooking role is very gendered, in a household and still in large parts of our country, women are using biomass for cooking. Which I think they are the- and we know, sort of- of course, there is the physical labour thing that go collecting wood cooking. But I think there's the severe health impacts to women from cooking on biomass. Because they are directly there - cooking. I think those kind of things make this kind of energy service of providing clean cooking probably a top of the priority list, right? So what energy services are required and sort of in absence of those energy services, what are the impacts on people, right? There's some prioritization that gets built - gets built in. And anything that would have severe health impacts goes up on the list.

INTERVIEWER: Yeah. Sure. So, you consider this a priority for policy and intervention designs, right?

RESPONDENT: Yes, I think most definitely. Yes. And I think there is a lot going on, of course, I haven't studied it in detail- but there's lots going on, but I know there's still lots- a long way to go on it, right? Like the -we have- recently, government has had many free LPG schemes. And I think they have - they've done some good. But still, we have for various reasons see a lot of households still preferring to use biomass.

INTERVIEWER: Yeah, yeah, yeah. And the demand for energy- how does- how does your work understand consumer needs and the demand for energy?

RESPONDENT: So again, going back to the work we're doing on cooling, we-so we have studied - two sets of people, people who have air conditioners and trying to understand what do they need for, why did they get an air conditioner, how's their experience been, but also people who, again, are very similar, have very similar characteristics to the people who have ACs, but do not currently have an AC. So, trying to understand how they are currently meeting their cooling needs, what are their aspirational needs? Are they looking to buy an AC and why and why not? Yeah, so trying to understand sort of people, so trying to understand people along, you know, who are doing- making that transition there. You know, they have some access to cooling, but not have an air conditioner, and probably, in some time, as per the curve might go for an air conditioner, but also people who have recently made that transition. So bought the AC in the last couple of years, and trying to understand, sort of, how they're using it right now.

INTERVIEWER: Okay, so when you're doing data collection, because you do a lot of data collection in a very, I think, in a, very context manner. What criteria do you guys use to map say, diversity of access, like what you're saying about, you know, that some people from the same context don't have- what kind of criteria do you use?

RESPONDENT: So, we've used a prior study, which was an NCR wide study, which - from which we know AC penetration rates by clusters from the - so we pick our sample based on that. Yeah.

INTERVIEWER: Okay. And is gender a criteria also for - in your mapping?

RESPONDENT: And not in our sampling.

INTERVIEWER: No.

RESPONDENT: Not in our sampling. Yeah.

INTERVIEWER: So, the older report that you were talking about that you have used, is it- is that any existing government report or something? Or is it also something where you people have done a previous research and previous …..?

RESPONDENT: …. there was a separate group of researchers, my collaborator on the XXXX, XXXX, was also involved in the other work, I can look up if I have a reference to that older study.

INTERVIEWER: Okay. But again, it is not something - no study-

RESPONDENT: It wasn't an energy focused study. There were many, many different things trying to understand NCR, broadly, one of the aspects within that study was looking at AC penetration…

INTERVIEWER: Okay, yeah, right. And objectively gender has not been considered- considered as a criteria? I'm just trying to clarify that?

RESPONDENT: In sampling?

INTERVIEWER: Yeah.

RESPONDENT: No, the only sample- the sampling criteria was mostly try- looking at areas which had above a certain threshold of AC penetration, because we were looking for households that have ACs and that do not have ACs.

INTERVIEWER: Okay, so it's basically just a household- household level data collection.

RESPONDENT: It’s household level, yes, yes. And then within the households, we survey the household members. Yeah.

INTERVIEWER: Understood, understood. Yeah, how equitable is energy access at community and household level, in terms of gender equity, do you see that difference within a household?

RESPONDENT: So, it’s, XXXX, little hard to say, because what we find is that people use their more energy intensive cooling appliances during the sleeping time. And we would just assume that it benefits the entire family. But what we do find is the decision making around you know, what kind of AC to buy, where to buy, those are sort of more male dominated decision making. Often, they're made by the head of the household, which in, in most cases is, is a middle-aged male member.

INTERVIEWER: Also, where the AC gets put, like, for example, though, as you said, bedroom is the first priority.

RESPONDENT: I'll have to look that up. But what we find in, in almost all questions around decision making on, you know, purchase use - is mostly the head of the household, that's the primary decision maker.

INTERVIEWER: Okay, have you seen ACs used in kitchens?

RESPONDENT: XXXX, what we find is that of the households that have an ac, 80, 90% of them have one AC. So very, very, very small portion of our house, I think about 4, 5% of the sample has multiple ACS, and bedroom is the first choice of putting an AC. So, it's, I mean, I'd have to look at the data to see if there is a AC in the kitchen, but it might be like of- for a handful of houses, if at all, so very hard to say anything in - in a sort of statistically robust manner.

INTERVIEWER: Okay, yeah.

RESPONDENT: It's still one AC households, mostly those who have them.

INTERVIEWER: Understood. How does gender affect the way the energy is used in households? For example, who has responsibility of different tasks that use energy? Have you looked at that at any level?

RESPONDENT: So, I'll have to look back at - at our responses in a more systematic manner. But we did try to understand sort of, you know, who determines, you know, what, when the AC, how the AC is used, and again, sort of you find that head of the household is the most common decision maker. But sort of around- what, what we do find is that mostly the women have very little information on whether - what kind of AC they own, what's capacity of an AC, what's the warranty? So, you know, mostly they're unaware of sort of the technical details around the air conditioners, and one would assume that a low levels of technical information would translate into sort of uninformed decision making in some way, right?

INTERVIEWER: Or- or lesser participation in decision making.

RESPONDENT: Exactly. Yeah. Lesser participation. Yes. So, and I think there is a broader- so there is a broader literature, which, which does point to that if women are more informed, then it can have positive effects on the energy conservation behaviour of a household. So that's a suggestion we make that you know, we need to try to understand this role of women in cooling and have more targeted programs that make women more informed and which can potentially help drive more energy efficient decision making at home.

INTERVIEWER: And this is quite surprising considering that women stay at home more than men, right?

RESPONDENT: Yeah.

INTERVIEWER: And also, during the hotter period of the- of the day which is during the day. is mostly occupied by women.

RESPONDENT: Yeah.

INTERVIEWER: Okay, very- thank you so much.

RESPONDENT: But so, we find the most common time a AC is used is at night, so sleeping time, with the second most common time is the afternoon.

INTERVIEWER: Yeah.

RESPONDENT: And talking to sort of people who work in the area that sort of correlates very directly with the time the kids come back from school. Yeah. Or the resting time in the afternoon, sort of.

INTERVIEWER: Yeah, yeah, yeah. It's again, it goes back to what you were saying - it's connected to resting time, really.

RESPONDENT: It is.

INTERVIEWER: Those are the main time slots you're looking at.

RESPONDENT: Yeah.

INTERVIEWER: And the next one you were talking about was entertainment.

RESPONDENT: Sorry?

INTERVIEWER: The next need for cooling was - what you said was entertainment, like entertaining guests...

RESPONDENT: I don't know if that's the next but that is one of the other common ones. But resting is, is, is big.

INTERVIEWER: Okay.

RESPONDENT: And as I told you, these are mostly in, you know, if you're talking about this in Delhi's context, it applies, I would say to large parts of the country is that, for households that have ACs, they're still mostly single AC houses.

INTERVIEWER: Yeah, right. So, if it's a single AC household, it will get put into the master bedroom? Or?

RESPONDENT: Yeah, mostly we find it is- it's in the bedroom. Yeah.

INTERVIEWER: But it's the master bedroom, like the other bedrooms will probably not have AC it's a single, if it's a-

RESPONDENT: I - we didn't look at- when we looked at, sort of, room use, we didn't have a master bedroom classification, as I said, again, like most households are not like multi bedroom households, these are still smaller. And sometimes there are multi use rooms, you know, it could be used also for working and resting. And so, you know, still in Indian households, using a room for multiple users is quite common. So, it's very hard to map out a -a master bedroom that ways, but we do know that it would be the bedroom.

INTERVIEWER: Okay, right, right. Thank you. How does- okay, according to you- I mean, just as you were saying that there is a lower ownership or participation in decision making when it comes to cooling. Do you also see different groups of women benefit from access- access to energy differently? For example, younger women and older women? Or do you see any difference in even community level or religious level or cultural groups?

RESPONDENT: We haven't looked at that. Sorry.

INTERVIEWER: Okay, okay, right, no problem. So, the key energy infrastructure that your work has been involved in is cooling, right?

RESPONDENT: Yes, yes.

INTERVIEWER: So, when new energy infrastructure and technologies are provided, what in your view are the differences between men and women in terms of who benefits? In your view?

RESPONDENT: I don't know- I think it's very- I don't want to put out views or opinions out there.

INTERVIEWER: We are looking for your views and opinions. So please feel free to tell us what you think. Because these are qualitative and- interviews, that we're doing and we will be analysing the qualitative responses, because a lot of the times - like even XXXX told me the same thing that you know, I've never worked on it, and as a gendered thing, so I don't know whether I will have anything to say. But then, you know, as you're working in the field, like for 10 years, you've been involved in this, there are many things which you would have actually formed opinions about, maybe you don't have research to back that up. But those opinions are also valuable because they come from an observation which is, you know, happened in a informed manner over a period of time. So, we are - we welcome the opinion. Do you want me to repeat the question?

RESPONDENT: No, no, I think I understand. But I think it's, it's, I honestly do not know. Because I think when we talk about energy access, the most basic need we see the energy being provided for first is lighting, right? And lighting and-it often gets spoken as you know, kids studying at night, right? So, I don't know how gender features in there. So, yeah. I think when we're talking about energy acc- so you know, the behaviours and- the energy behaviours and uses, if you talk about an all-India level is very different from very elite areas, right, where they would have access to all modern appliances for energy services, right? So again, then the gender becomes diluted because they probably have a- a, you know, I don't know -a washing machine also and a microwave. So, they will have all kitchen gadgets as well as other gadgets which get used by everyone. But if you're talking about an all-India level, we are still at very low levels of energy uses. We are lighting, and then maybe a fan comes next. Yeah. And I think yeah, I don't know how much I can comment about the gendered uses of some basic uses of electricity.

INTERVIEWER: Sure, sure. Beyond your specific organisation, what are your views on, who makes decisions upon what technologies or appliances are purchased or used in the home? Doe sit matter what infrastructure is used? Who makes the decisions for what technologies?

RESPONDENT: So, I think, in our study, and generally what I've seen on in other studies that look at energy uses, what we find is most decision making in this house- in the house is made by like the head of the household or the *mukhiya* (headman), right? And that's, that's the most common response that we get on decision making. And so again, I think who the *mukhiya* is in the house might differ from region to region, but what we find in our work is, he's a middle aged, employed male member of the household. But I think that could be a little bit dependent on the local context.

INTERVIEWER: Sure.

RESPONDENT: Right? Yeah, but we do have a patriarchal society. So, there's definitely no opinions there. We know that, right?

INTERVIEWER: Yeah, yeah. Sure. So, you would not think that men and women participate equally in decision making about energy access, right? I'm just summarising here.

RESPONDENT: I would think so, I would think so- I think decision making and, and information about energy services- both is limited when we talk about a woman, right, and one plays into the other.

INTERVIEWER: Right, right. And between urban and rural contexts, do you think the gender equity and energy access is different?

RESPONDENT: I think it's probably more severe in, in rural India. So again, it could be that just as much- if you look at percentages, so I'm just making this up, that in terms of percentages, the role of women might be similar. It could still be small, but what implications does that have - would be more severe? Because access to energy is more limited in in rural areas, right? So, yeah.

INTERVIEWER: I think it plays into what you were saying before that when we're looking at Delhi, and we're looking at people who can afford at least one AC, they already probably have a microwave, all their rooms have fans. So, the access to energy devices is already there for the whole family. Whereas when we are talking about rural India, we're probably talking about whether-

RESPONDENT: - lighting-

INTERVIEWER: -yeah whether you're being able to electrify all rooms, or whether you're being able to put in fans even in the main bedroom-

RESPONDENT: Or you- or even if you have a electricity connection to begin with, right?

INTERVIEWER: Yeah, yeah absolutely.

RESPONDENT: So, a working electricity connection. So, its just more severe? Yeah.

INTERVIEWER: Yes, right. Thank you. So, to what extent do you think gender equity factor in your work? I know you don't objectively study gender equity, but just from your understandings in- in terms of, say, project priorities or internal processes? Do you have any gender lens that you apply for your work?

RESPONDENT: So XXXX, I'm not trained in this area. So, I think, and you have a lot of training and experience on this, right. So, you would appreciate that, you know, just trying to- that you do need some level of background to - to ask questions, to write dow- to ask the right questions, and to ask them in the right way. So, I'm not trained. I'm very interested in this question, but I haven't worked much on it.

INTERVIEWER: I'm asking more in terms of like, you know, you - we also create these multi-disciplinary teams to understand these kinds of questions. So, but you haven't within your projects, prioritized gender specialists to come and look at the data or participate…

RESPONDENT: Not yet, not yet.

INTERVIEWER: Okay. Yeah. Okay, okay. Okay…So, thinking beyond your specific work- do you think energy access policies in your sector should be gender sensitive?

RESPONDENT: Yes, I think so. I think we need to understand and acknowledge that the role women play in decision making and - and around energy is limited, is less than the role men play, right? We need to acknowledge this. And I think from the broader experience and evidence, not just in energy, but broader sectors, so if you talk about micro finance or other things, a woman can- women do play a very effective role, and when they are informed, right? So, I think we, we need to acknowledge that women can play a very effective role, and that currently they do not, and try to fill that gap. So, I think I do very strongly feel that the -you know, gender needs to be- gender role needs to be understood better and needs to be worked upon, in a more focused manner.

INTERVIEWER: And your main this thing is - main issue that you're looking at is awareness? As in women have less awareness about or?

RESPONDENT: So, it's both right, they are less aware, and they are less empowered, because they're not playing their role in decision making. And I don't know from the outside how the two factors interact with each other, right? Like so less informed, you're less inclined to play a role in the decision making, because you know less about the fact but also, if you're less empowered, if you don't have a say, in decision making, you are less inclined to also inform yourself of that factor. So, I think those two interact, I don't know how. So, I think both need to be looked at.

INTERVIEWER: Okay. And do you think that there are policy gaps in around women's access to energy at local level? Or even national level?

RESPONDENT: I don’t know. Yeah, yeah.

INTERVIEWER: Okay. Okay, right. What related social policies do you feel have an impact on energy equity?

RESPONDENT: Sorry, can you say that again?

INTERVIEWER: What related social policies- do you feel have an impact on energy equity?

RESPONDENT: Social… Can you give an example?

INTERVIEWER: For example, like even the example that you were talking about in terms of LPG connection?

RESPONDENT: Yeah.

INTERVIEWER: That is an energy policy.

RESPONDENT: Yeah.

INTERVIEWER: But actually, at many levels, it is also a social policy, because it is-

RESPONDENT: Yeah, of course.

INTERVIEWER: - a policy geared towards-

RESPONDENT: Yeah.

INTERVIEWER: -trying to get-

RESPONDENT: Yeah.

INTERVIEWER: -an activity, which, because of the patriarchal setup that we have- mostly women do, and they do it within health hazardous conditions, and, of course, the inconvenience of working with biomass-

RESPONDENT: Yeah.

INTERVIEWER: -and you're trying to transit that group of people into cleaner cooking fuels, right?

RESPONDENT: Yeah.

INTERVIEWER: So, it becomes both an energy policy as well as a-

RESPONDENT: -a social policy, yeah.

INTERVIEWER: -a huge - huge impact of a social policy.

RESPONDENT: Yeah.

INTERVIEWER: Do you see any such things within your work?

RESPONDENT: So, I think- so there are examples so LPG policy is one, the huge drive over the last two to three years to get every household an electricity connection, I would say was other such a program? So, I think, I think there are- there are examples of sort of energy policies, social policies, gender focused policies that interact with- with each other, each other, right? So, I was looking sometime back into provision of cold storages in rural areas and- and the finance minister in last year's budgets, he sort of talked about this in Griha Lakshmi program, which was like this village storage schemes, which would be run by a woman. So, I think there are definitely examples out there. I don't know sort of what the status is or how effective they have been. But in rural areas for- I think they've been a lot of examples specially in COVID times, right? Which have- which interact at- at- which sort of, sort of check on all two, three of those areas, right?

INTERVIEWER: Right. You're right. I mean, one of the very interesting things is like, you know, this whole electrification lighting, yeah, lighting of one crore homes and all that- that entire thing. What we found was that literacy level of women, especially further studying for women-

RESPONDENT: Yeah.

INTERVIEWER: -increased with the hours of electrification and access to artificial light, because women managed to read after work hours, after the day hours, right?

RESPONDENT: Oh, very nice.

INTERVIEWER: So, there was- there are these very interesting things which emerge-

RESPONDENT: Yeah.

INTERVIEWER: -which are probably not even designed-

RESPONDENT: Yeah.

INTERVIEWER: probably not objectively thought of, but come out as interesting effects, aftereffects.

RESPONDENT: Very nice.

INTERVIEWER: Imagining no policy or financial constraints for a moment- what in your view would be best practice for achieving gender … equity in energy access- for your context?

RESPONDENT: Can you just say that again? Sorry.

INTERVIEWER: Without any- without thinking of any policy or financial constraints, what in your view would be best practice for achieving gender equity and energy access for your context?

RESPONDENT: So, if I were to pick one, I would, I think I would go back to what I said earlier, is a, you know, a provision and adoption of clean cooking, by all households across India, I think using biomass for cooking is a huge health hazard. It's big air pollution problem. And of course, we- we are cutting down trees for that, right? So, I would say I think, if we can achieve universal clean cooking, and you know, I think so it's not just provision, it's sort of sustained use by this households, right. I think that would- that would be I would say, one- one area that... yeah.

INTERVIEWER: In your current position, or work- is there any particular way you see gender mainstreaming of energy access that you can work on?

RESPONDENT: Sorry, I'll ask you to just repeat again.

INTERVIEWER: With- within your work, within your work and in your current position, the work that you're doing- do you see any way you can work on gender mainstreaming, within your work, for energy access?

RESPONDENT: I can probably look more deeply into the role gender plays in cooling access and use of sort of the more cooling intensive appliances. Because we do touch upon that in- in our ongoing work, but I think there's a lot that can be looked at around that, and how does that differ between different regions? And- and yeah.

INTERVIEWER: Right, right. How balanced is gender representation in various decision-making bodies that you are you have experienced with- within the energy governance structures?

RESPONDENT: I think I would say same as - as in all sectors. And energy is probably one of the more traditional sectors, right? So… yeah.

INTERVIEWER: Like 20- 20 men and one woman or 10 men and one woman?

RESPONDENT: I think we- I - so I don't, I won't go into proportions, exactly. I don't know. But I think I would I - I know a very well-intentioned people who, you know, you know, before they are hosting an event try to have- so I think we need to overall think more actively of having more women representation. But honestly, sometimes it becomes very hard to find women to play that role. So, we also need more women who are ready to take up that role, right? And so overall, as you pointed out earlier, if you look at literacy levels across the country, women are particularly low, right? So, these are not also - so there needs to be more demand for women in those positions, but they will also need to work on supply, right? We need to have more - if you look at a particular area and say there are less women in decision making, we need to see are enough women being trained and educated for those kinds of roles? Yeah.

INTERVIEWER: Right, right.

RESPONDENT: Both the demand and supply, I mean, you should look at.

INTERVIEWER: Yeah, yeah absolutely. Yeah, absolutely. I mean, it also comes down to visibility of the women whether- just what you said no? To find the right women.

RESPONDENT: Yeah.

INTERVIEWER: Often we- we also find that even if there are right women, they actually don't have enough visibility.

RESPONDENT: That's a - that's another problem. Yeah, visibility. Sure, definitely.

INTERVIEWER: Do you think renewable energy access finance processes are gender aware?

RESPONDENT: Finance processes? I don't know. I really don’t know.

INTERVIEWER: Like for example, Green Climate Fund or, you know, any other national finance structures?

RESPONDENT: XXXX, I don’t know. Yeah.

INTERVIEWER: Okay. What in your mind would be the key challenge- challenges for gender equity, in terms of renewable energy access?

RESPONDENT: I think it is hard for me to think something specific in case of renewables. But I think, if I think about, you know, I think we can think about renewables, energy efficiency or other clean sort of energy, clean energy more broadly, I think there needs to be more awareness overall about these things. So not just gender. But I think overall awareness and appreciativeness amongst the community about using these things. And then a specific focus of women can probably help drive the adoption even more. So, I think we find that overall awareness is low. And in women it's even less, so we need to work on overall awareness. But we need to also specifically target women that and- and hoping that more aware women can be more effective towards implementation and adoption.

INTERVIEWER: Okay. And you've not specifically looked at financial - finance structures, which support this gender equity at any level?

RESPONDENT: Not gender equity. I know that in broader, sort of energy efficiency things, but finance things specifically...

INTERVIEWER: Let me just-

RESPONDENT: I think it could be- yeah.

INTERVIEWER: -clarify, let me just clarify like, for example, if I'm just looking at your sector of cooling, right?

RESPONDENT: Yeah.

INTERVIEWER: So, women, many women, even within our socio-economic bracket, actually conduct home based entrepreneurship or home-based work, right?

RESPONDENT: Mhm.

INTERVIEWER: Many women actually take time off -during maybe the, you know, the, when the children are very young- and work from home, take a certain part of their work at home and all. And what I want to understand is that are there finance structures, supporting them- conventional finance structures supporting them to make their energy need requirements within households, when they're doing something like that? For example, can they- okay, so let me just give you an - give you a hypothetical solution- situation, like, we talked about COVID, right, when suddenly large groups of people were forced to stay back at home, especially men were forced to stay back at home. And what we find within infrastructure design sector is that suddenly investment in home, home and home, related… allied things have gone up. Okay, not just in terms of needs, but also in terms of beautification, like you talked about air conditioning for work- work from home. So now if I'm a woman who's running a small business enterprise from home-

RESPONDENT: Yeah.

INTERVIEWER: -or I have taken three years, because my child is very young, and I'm working from home, do I have access to any financial structures, like loans to put in a cooling system in inside my house to make my work comfortable? Are you aware of anything like that? Do you-

RESPONDENT: I'm sorry, I haven't looked into that. And definitely not from a gender perspective.

INTERVIEWER: Yeah. Okay, right. It's more- actually why it becomes gendered is because most of the time the work from home happens for women. And if there are, if there are no specific finance structures, which are actually allowing Small Business Enterprise to buy, to buy a- buy say an AC to put during the day for the work that you're doing, that - it does not opaquely it does not look gendered, but actually, the impact is often very gendered, because-

RESPONDENT: I see.

INTERVIEWER: - the maximum number of people working from home would be women. You know, so that's how-

RESPONDENT: Very interesting, yeah.

INTERVIEWER: -that's how we end up looking at it actually. So, is there anything else you would like to add that I have not asked you of? Any?

RESPONDENT: No, I think this has been really nice conversation, I hope it's been helpful for your research.

INTERVIEWER: Yes, yes, very much. It's very interesting, the-.

RESPONDENT: I'm sorry, I couldn't answer some of your gender specific questions.

INTERVIEWER: No, no that’s okay.

RESPONDENT: But I think it's a very important area. I have not looked into it. And I think broadly, I think there needs to be more work in this area. So and as you said, it's not just specific, it might not look gendered from an overall view, but the implications can still be very gendered, right?

INTERVIEWER: Yeah, yeah. No. So one of the aspects of our research is also to reinforce the need for gendering in something which is considered a very masculine sector, you know, energy, and we want to be able to see whether there is a need for gendering such that the energy access is far more equitable, you know. So, that's one of the things we are looking at. Do you think we should be asking anything more on this topic? What do you think? Are there any?

RESPONDENT: No, I think it's, it's pretty good. I think it's pretty good. And I like the overall flow. I think it's, yeah, it's good.

INTERVIEWER: Okay. Do you have any recommendations of any more people we can talk to on this - on these topics?

RESPONDENT: And you're looking to study Indian researchers, based in India?

INTERVIEWER: Not just researchers, yes, researchers too. I am looking at the Indian section. There are other teams which are working with the other three countries. But, yes, researchers, but also professionals, technical professionals working in the energy sector, within government structures within policy structures, any people who you know.

RESPONDENT: Yeah.

INTERVIEWER: And of course, if you know of people who are working with gender and energy, definitely them too.

RESPONDENT: Sure. I'll just think about it. I think we talked about this in in our (inaudible) call as well. Yeah, yeah. Yeah.

INTERVIEWER: If you have any names to suggest to me do send that, yeah?

RESPONDENT: Okay, yeah, sure.

INTERVIEWER: Right, if there are any follow up questions, can I email them to you or something?

RESPONDENT: Okay, yeah.

INTERVIEWER: Yeah? Yeah, sure. Thank you so much. That was really interesting.

RESPONDENT: Welcome, thank you.

INTERVIEWER: Yeah, because this cooling aspect is actually a very interesting aspect. One of the things that XXXXtold me was that in rural India, when the rest of the household goes out to the fields for agriculture, because young women with children stay at home, a fan is being put in and he was like, he was wondering whether it is because of the children or the women but a fan is being put in.

RESPONDENT: Okay.

INTERVIEWER: So, these are very interesting aspects of cooling. Thank you so much for this, XXXX.

RESPONDENT: uh huh…

INTERVIEWER: -And I will be sharing the transcript as soon as it is done.

RESPONDENT: Great, yeah. Keep me posted on how things go.

INTERVIEWER: Absolutely we would do that and surely, we will share the research results once it is all done and everything.

RESPONDENT: Great, exciting. Okay, thank you.

INTERVIEWER: Thank you so much, thank you.