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| **Interviewer name** | XXXX |
| **Sub-contractor organisation** | ARU |
| **Interview date** | xxxx |
| **Duration of interview audio recording** | 1hr 10 mins 03 secs |
| **Face-to-face or virtual interview** | Virtual |
| **Interview participant** | |
| * **Code** | I1 |
| * **Participant name** | XXXX |
| * **Organisation name** | XXXX |
| * **Gender** | Male |
| * **Stakeholder category** | Technical professional working in Energy Sector – NGO, Government and International Organisation |
| * **Country** | India |

INTERVIEWER: We’ll start off with a very good after- good morning sir, and we are very obliged to you in your busy schedule to take out this time, we highly appreciate it. And the idea is for us to have a better- a better understanding of energy access and gender equity in energy access, so that we can create a research database which would further go in understanding of how energy and access to energy can help in eradicating poverty, which is one of the main goals of SDG7 – the sustainable development goals that we have in- and which India is a participant of. Before we start, I would like to check with you- a couple of points, one is: you have completed and returned the consent form?

RESPONDENT: Yes, I have.

INTERVIEWER: 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.

RESPONDENT: Thank you- thank you, XXXX. It is a pleasure to be part of this study and to talk with you and I look forward to sharing our.. my own thoughts and obviously the experience is based on the work which not only I, but other colleagues have done but I’ve learnt from.

INTERVIEWER: Thank you sir. As I informed you already, we’re … and took your consent- we are recording the interview for our documentation purposes.

RESPONDENT: Okay.

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

RESPONDENT: Thank you.

INTERVIEWER: All the information we obtain serves the sole purpose of this study and will be seen only by the research team. Your name and any other identifying features will not be used anywhere in reports and other publications emerging from this study. The interview will take around an hour depending upon the time we take over the answers- the responses that you give. So, if that is all-

RESPONDENT: One- one very quick question, you said that this is aimed at creating a database that could be used?

INTERVIEWER: No, not a database Sir, not a database- a research understanding of the importance and the- the importance of gendering of energy access and the need for gendering of access and how much we are being able to do that in global South. So, these are the three points-

AM: Would you – would you also take the next step which is – okay so therefore what needs to be done?

INTERVIEWER: Yes, yes, that is where we end the interview with, in terms of asking you what you feel is the requirement. So, if- to start very briefly, can you tell me about your current role and position and the organisation that you are working with?

RESPONDENT: I am with the XXXX, XXXX – I’m its XXXX. I’ve been in this position for nearly XXXX. And XXXXis.. I was going to say it’s a think tank but it’s more than that.. it’s a do tank as well. We do hardcore research… in XXXX. Our goal is that more sustainable ways of living- particularly through technological interventions- can be made available to people in India and in the global south. Towards this we, obviously as I said, work on technology development- we work on how do you create business models so that people will preferentially adopt, these as well as other sustainable- more sustainable technologies that are developed by other people- and the third part is work on the policies that will help in the large-scale replication of those business models. The last part of it is - we- is that we also work- you know- if we are doing all of this then the people – particularly the people for whom it has a meaning- how do we reach out to them? So, outreach is a big part of our work. XXXX.

INTERVIEWER: Thank you very much sir. Can you also tell me a bit about your background of work because you have worked across sector- especially also within the government- and what made you get into the energy sector? Very briefly if you can just tell me. Also, I’d just like to give- the nuances that I want out of this question is- how long have you been involved with energy issues and why? What specific energy related activities or programs you have undertaken within your work? And two, what extent does energy *access* feature in your work?

RESPONDENT: So, I came into the energy area in the decade or so after the first oil shock. That really governed my decision to move – to realise that energy was important, … for India- and then when I went on to work on my masters and PHD I realised that this was important across the world. My- given the fact that I went into engineering much of my early focus was on technology. I did my PHD in the XXXX, taught there, but then realised that the BIG issues are really in the developing world. So, I came back to India, came back to XXXX, worked on things like XXXX and so on. I… that took me into the policy area because- how do you get these technologies to be picked up? Remember at that point of time all of these technologies were much more expensive than the existing technologies. So how do you get them in? The only way you could get them in is through earmarks, which means regulatory processes, which means policy processes. So, I got involved in those as well and this is around the time when climate change came onto the global agenda and we realised that there was a commonality of interests between what we were doing, which was essentially sustainability and cleaner technologies, AND the climate change agenda. And therefore, climate change became a very big part of my own life. And the- therefore it was not just about ‘climate change is the problem’, but ‘here are the solutions’. I then worked XXXX. I came back to India, I XXXX. I then joined the government and for 10 years I was the XXXX of the XXXX- where we tried to get energy efficiency into people’s homes, into their offices, into their factories and therefore creating programs like XXXX. We also helped create a company, called XXXX. This I think- and also what was very important was the international relationships because what we showed was that it was possible for a country like India- a developing country- to be a global leader as far as energy efficient technology adoption is concerned. I was as I said with the XXXX for 10 years and that’s the time when I came to The XXXX.

INTERVIEWER: Thank you sir. Just in this I would just like to ask you- I was reading the World Bank Report which had been done in 1996, there was a data creation which happened which was about rural -I mean - women’s usage of energy in rural backgrounds. I would like to know whether you are aware- what do you know about this? I was just going through it- it’s got very interesting findings right there- but more in terms of- like that’s 1996… 2020 so how much has the sector changed?

RESPONDENT: So, XXXX, you know- very, very long ago researchers in the World Bank, but I would say, even in India- had realised that the use of biomass cook stoves created a huge health hazard for the people who were cooking- particularly women in enclosed- enclosed huts. So, the – the former – really, I’m sorry that he passed away- Kirk Smith, the late researcher actually built in XXXX a lab: a hut, in which he burnt various kinds of fuels- to see what is the kind of take up. And I remember Kirk once saying that average Indian woman takes in as much of carcinogens from the smoke as equivalent to 20 packs of cigarettes a day- 20 packs- 200 cigarettes a *day.*

RESPONDENT: That was one statistic which startled me and consequently the issue was ‘okay so what do we do about it?’ And therefore, whether it was to improve chullahs– we’ve made improved chullahs for donkeys’ years. The challenge, the problem- and I’m saying this now. It took time to realise. The challenge was that if you have a good chullah which works on biomass- it needs its ventilation - it needs its smoke to be sucked out. And it needs a certain amount of draft to be created so there is good combustion, and the smoke is sucked out. You need motive power. If you need motive power- you need at least a solar- some solar energy or some energy of some sort. This makes it expensive. So, for those households where income is an issue- this is essentially a non-starter- what is called as a tier 4 cook stove is amazingly expensive so unless you and I give it as a gift- nobody’s going to buy it. Which leads to the issue- okay if this is not so, what should we do? And therefore many, many, many years ago there was a formal recognition in XXXX that we are looking at two different kinds of users- one is those who have a problem with cash and therefore will collect fuel. It is very difficult to get them to move to any fuel for which you have to pay money. But we also fully understood that there is a ladder there. You use it today- it doesn’t mean that this is the end of life. Even in the own lifetimes, people do move up because there is an issue of both the time and the social impact of this. The second category is those households where there is some income. If there is income, then we can move to either LPG or in the very recent past- conduction stove. Conduction stove is something which is not more than 7, 8 years old. Now the challenge was- while LPG- access was an issue. LPG is available in urban areas; it was not available in rural areas. And again- when it was recognised that this is an issue was only in around 2015, 2016, when the current Petroleum and Natural Gas Minister Mr. Dharmendra Pradhan used, in my view, a magic word. He said this is a social investment. And moved LPG use and subsidy out of our houses- I mean why on earth should *I* get a subsidy on LPG? Doesn’t make sense- and moved it to rural areas. To me this was a big shift. We have now seen that- there is LPG, but the refilling of LPG connections is poor. And I go back to the time when my family got LPG- we got it in either 67 or 68, something like that. Till 1972 there was a chullah which burnt coke, there was a kerosene stove, there was an electric heater and there was an LPG. Because the LPG used to finish and then you went back to the previous fuels. In 72 we got a cylinder- the 2 double cylinder connection. And then suddenly everything else was retired.

INTERVIEWER: Yeah, I remember this too, yeah.

RESPONDENT: You remember this? So, what it tells you is how important a double connection is- reliability of supply is at the heart of moving to cleaner kitchens. The second thing, XXXX, that we understood was, that in rural areas, the cylinder is not delivered on your doorstep. You have to go somewhere and get it. Now if your income is limited- then now you have to face two decisions- one, I’m going to spend the money on getting an LPG cylinder, two – I’ve to go and get it from the godown. This means that it’s not only the woman of the household- it’s not only the person who’s in the kitchen but also the men of the household who are now involved. They’re involved in the financing decision, and they’re involved in the transportation decision. This has made it complicated. I wish there was an easy answer but there isn’t. This is one of those things where- I think what we need to do, as a community, is to tell of the kinds of benefits that families have, not just women- women obviously have benefits- that families have, as a result of moving to LPG.

INTERVIEWER: Okay, so you mean that the decision to move to LPG then becomes a more difficult decision because now men think ‘okay I have to pay for this and now I also probably have to go collect this cylinder’? Okay, right.

RESPONDENT: So, XXXX, see- the connection is often given because there is a government program and there is a guy who comes- the BDO comes along, saying ‘do you have LPG? You don’t- why don’t you?’ So, the LPG connection is given, but the refills-

INTERVIEWER: To keep sustaining.

RESPONDENT: -that’s where the decisions lie.

INTERVIEWER: Yeah. So that is already we are talking about the differential access to – access for energy, something like cooking fuel. Can you please tell me a little bit more on energy access issues that you have worked on- not just in cooking fuel but also say electricity and all?

RESPONDENT: Lighting… So… now, while we were fighting for LPG access in rural areas, and I still remember a paper I wrote long ago that showed which we in urban areas get very cheap LPG, and people in rural areas get very expensive LPG. Let us say the amount of money you pay for every thousand kilocalories of heat is a lot more in rural. So, this is something we’ve been fighting along for years. But what we saw was as far as lighting is concerned, there is a magic solution- a technological solution that is available which is solar home lighting systems. Now again if you supply this as a solar home lighting system which gives lights, which gives fan- which gives, in more recent years, say since 2000- charging for phones as well. That’s a complicated system. So, what we focused was on a light- light alone. And we realised that numbers are important. And therefore, we made this a mass campaign- XXXX created something, this is before my time in XXXX- actually in between my time in XXXX- something called ‘XXXX’. People, companies contributed to this. And consequently, homes got massively subsidised lamps- solar lamps. They were not free because we thought that communities and families should pay for it. But the second thing that we did- which I thought was more important- is to focus on local livelihoods. What does that mean? So local women- who could put together components and make these solar lamps there itself- so instead of importing the whole lamp- can you do it? Second, a livelihood by charging- because all of these need charging. One of the ways we thought we could reduce the prices: don’t give a charger with each one because solar lanterns- solar panels still costed a huge bit- but you have a central solar lamp- a solar charging system- people bring in and they charge every day, and they take it back. This gives an income to a woman as well. 3000 of these women were still- were still means this was December last year so it was a year ago- were still providing these services.

INTERVIEWER: This is where Sir?

RESPONDENT: All over the country.

INTERVIEWER: Okay.

RESPONDENT: All over. So, you know, the largest distribution is in the – Jharkhand, Chhattisgarh areas, but there are also a lot in North East. There are also in the hills of UP and Himachal- all of these places- they all offer now more services than what we had initially trained them for.

RESPONDENT: So, to me this was a matter of some happiness- that at least as far as the lighting issue was concerned it was addressed. But then since about 2012 we have seen the precipitous decline in the prices of solar energy. And suddenly now it makes sense- to have larger systems- which serve all of those needs- at the same prices as lamps. This has completely changed the picture. And now it has made it profitable for the private sector to come in- so there is no more need for XXXX. I must confess that this was a matter of great satisfaction, as was the fact that every household in this country is now connected to the grid.. or 99% of them. Now it’s a different matter that they don’t get electricity through 24 hours. So just as in urban households in yesteryears we had inverter systems, Solar based systems for enhancing reliability are now available in rural areas. The – you know for years we pushed microgrids as an alternative to main grids. But now with the main grid everywhere- what we need to do is- you have microgrids that are meeting the reliability issues and are grid interactive.

INTERVIEWER: Okay.

RESPONDENT: So, you use them with the grid. So, the paradigm has changed…

INTERVIEWER: So that it plugs into the existing network already… okay.

RESPONDENT: Absolutely correct. So just as an inverter did. So, the point that I’m saying is that the paradigms of even 20 years ago are no longer applicable now. Why 20 years ago? Even 6, 7, 8 years ago- are no longer applicable.

INTERVIEWER: Absolutely.

RESPONDENT: But the only point that I want to stress XXXX, is that the- the definition of access over these years has changed and since the- no not definition- the understanding of what access means has changed and consequently what we do to meet that access needs has also changed.

INTERVIEWER: Okay.

RESPONDENT: I was speaking too much right?

INTERVIEWER: No, no, no that’s okay. So, could you give me an example of what you mean by this? The definition of the word access and the understanding of it?

RESPONDENT: So, so, this is what I meant that 20 years ago we would look at these ‘XXXX’ or these microgrids as solutions instead of the grid. Today we are looking at them as- you know, rooftop solar for example is a microgrid which meets reliability issues, AND which meets also the issue of getting electricity at any time that we want. It also addresses climate change but that’s a separate issue.

INTERVIEWER: Okay. So, in terms of policy context- what are the current issues, developments, etc. at State and National level which you feel influence your work, support or can create challenges within your work- in terms of the policies that are there- that are governing us today.

RESPONDENT: So, you know, if you ask me- right now we are in a churn- primarily because solar electricity has dropped to the prices that it has- it presents opportunities. And I must say that the government has been fully aware of this and so they’re thinking of- not thinking- they’ve started implementing packages for access that build on this. So obviously there is the standard home lighting system- very recently the government launched the Kusum program for solar pumps- where they said, ‘here is a pump which runs on solar, so you don’t need grid electricity for it’. But the interesting thing that they said was that the excess electricity that is produced- that means beyond the days that you’re using the pump for pumping water- we will buy that electricity into the grid. What that implies is that rural households now have local electricity- this means that the cost of supply is much less. There’s another model being tried out in Maharashtra by this company we had created in XXXX. What XXXX and the Maharashtra State Electricity distribution company are doing is establishing the small solar generating plants in the compounds of rural substations and each one of them is less than 2 MW and they’ve already established more than 100 MW and they sell electricity at 3 rupees. Why did Maharashtra State Electricity Board do it? Because by their own study they have found that the cost of supply at those rural substations is 7.48 rupees. So, they’re saving 4.48 rupees for each Kilowatthour! Now, there’s no batXXXXes so it’s all during the day but what it has done is it has taken off the entire load of pumping from the grid. And XXXX now says that if you give me 70 paisa more- I will put batXXXXes and give you 24-hour electricity. So immediately you can use it for pumping. At night- for 3.7 rupees instead of 7.48 rupees you can supply it into homes as well. The short point that I am saying XXXX- is that the models are changing. We don’t know where we will go – or even if there will be multiple models- who knows?

INTERVIEWER: And the needs are also changing, I guess.

RESPONDENT: The needs are also changing, yes, you know we talked of cell phones- chargers have become important. One of the things that we worry about- it’s not yet in the public policy domain discussions, - is that today- 50% of the 2 wheelers that are sold in the country are sold in rural areas. If we want to move vehicles towards electric mobility- we have to show they can be charged. And if in rural areas the supply quality is poor, we will not move towards charging of electric vehicles. So that’s again- one of the areas where we believe there is a market for reliable electricity services.

INTERVIEWER: Okay and you believe that there should be some policy level support-

RESPONDENT: -interventions-

INTERVIEWER: -interventions towards this.

RESPONDENT: Yeah.

INTERVIEWER: So, what do you-

RESPONDENT: You know in all of this; see I happen to believe that at the end of the day the transaction has to be commercially viable. It has to be provided at a price which is – obviously has to be remunerative to the person who’s supplying but should also be such so that the person who’s buying is both willing and able to pay for it. Ability to pay has always been a challenge. But with the new solar prices that is becoming a possibility. The second point is-

INTERVIEWER: Yeah, I just wanted to ask- yeah, go ahead, go ahead, go ahead.

RESPONDENT: No, okay. The second point I wanted to make was that while this is happening the user patterns are changing. So, we used to talk of only lighting earlier, now we are talking of phone charging. Day after tomorrow we are talking of electrical vehicles- two-wheeler charging. Day after day after tomorrow we may be talking of induction cookstoves. What this is meant is that the load curve, the shape of the load curve has changed. You will start seeing peaks at places where you did not see them earlier. This is a – this is going to be a challenge.

INTERVIEWER: I was, actually what I was asking was connected to this point because in the sequencing that you are doing of the energy requirements – one of the major time-consuming aspects for women is the time that they take in cooking food. And there still seems to be a little bit of a lack of focus other than the stove, in terms of you know grinders and the whole preparation time that they take.

RESPONDENT: Yeah.

INTERVIEWER: So that- do you see at any level a policy change supporting that you know- because lighting, entertainment- these are given priorities versus the work that is happening inside the kitchen.

RESPONDENT: So, if you, okay, so if you- if you- okay in your part of the country there is one of the most innovative countries in the area XXXX. And I don’t know whether you’ve spoken to Harish Hande or not-

INTERVIEWER: Yeah, I’m actually interviewing them just a couple of days later-

P- Okay, so Harish has- XXXX has developed a range of products- either themselves, they’ve a very good technical team or in combination with other companies which make these kinds of things work off solar electricity. So, whether it is kitchen based or whether it is livelihood based- so dairy kinds of things. But the point is we are no longer talking of small amounts of energy that are needed, we are now talking of much larger needs because both solar panels have become more effective- in size, each particular square foot – it produces more electricity than it did earlier, and it has become cheaper. So, these are possibilities that are emerging. So, you know, I would love you to talk to Harish about the appliances that he is developing for solar applications.

INTERVIEWER: Okay, I’m making a point of that. So, what do you- what do you personally understand when we talk about equitable energy access and gender equity in energy access? What is your idea about it?

RESPONDENT: So okay, I have two or three things that simultaneously I think need to be met. The first is clean energy supply for the various needs- both in the home- so whether it is lighting or cooking- but also for home livelihoods- that’s as important. You know for example there are lots of people who do- who have looms in the house and looms is stopping because there is no electricity- it boggles my mind. So, access for this- minimum access but I would- I even count basic livelihoods as a minimum. So, one is just sheer supply of clean energy. The second is that this energy is affordable because we’ve seen too many times that the energy that is available is so expensive that people can’t pay for it. And it’s not just economic costs, it’s also the social costs. We’ve talked of the costs of men deciding that they will put expenditure into getting an LPG stove or they will spend time in going and getting it. All of that I will count as the transaction costs involved in access. So, reliability of supply becomes important- so that’s my second point. The third one if you want you can include it- but you know I do. The third important issue is autonomy. It may sound too- it may sound very close to Gandhiji’s Swarajya village republics- but there is an issue involved in control. Does somebody else have control over when and how I use energy? Or do I have control? Now this is not a defining feature for me- but if it is there it is better than the option of not having.

INTERVIEWER: So how do you see gender equity as a part of this paradigm? And do you think it should be something where there is a priority for policy intervention?

RESPONDENT: Yeah so, if you look at this- the first is the availability of clean energy and I will add it to the third if you accept it which is local autonomy. What we see is the opportunities for women-based livelihood options. We also see opportunities to mainstream gendered roles into decision making. This is the main reason why I keep on harping on the LPG issue. You can provide clean energy. But if you don’t look at the gender aspects you will find people don’t change. So, the first point that I want to make is whether issue- energy issues which are of priority to women are included in the larger list of priority issues whether it is for the family or whether it is for the government. That is the first definition- no not first definition, the first component of gender issues in energy. The second component is women as agents of change. We’ve seen that when women- when one woman is able to break away and be a role model- the change happens- not the first but essentially the second or third but then the change starts happening very fast. So, these two things together to me- one is the inclusion of the agenda and the second is the agents of change- these two things in my view set the broad parameters within which we look at access.. gender in access.

INTERVIEWER: And you don’t think it is equitable at this point… or?

RESPONDENT: No, it isn’t, it isn’t. That’s the reason why we’re talking about it.

INTERVIEWER: Yeah, yeah, so- like you have actually covered it, but I would just ask a specific question- how does- this is exactly what you were talking about right now- how does gender affect the way that energy is used in households.

RESPONDENT: Yeah… so it is different for different kinds of fuels. When it was bio- when it *is* biomass fuels it is the women who are supposed to go out and collect it and then use it. So, in the process whether it is in the collection process because of falls- because of the kinds of safety issues involved in gathering and transporting the biomass home- there is an issue. And then there is an issue of when you burn it the woman is exposed to all kinds of emissions. So that’s one thing we- and that is not, you know by itself it is not part of the prioritization. It’s only be- but it did become a part of the policy prioritization which led to the improved chullah program and so on because there are other people who will argue including me that the origins of the improved chullah program actually lay in the notion of us engineers of more- that a chullah was very inefficient. Now this is with biomass, when you move to LPG you get a different set of priorities.

INTERVIEWER: Yeah, so just wanted to just ask a clarification in this- so this is- a cooking fuel is a heavily gendered energy usage anyway because across all household’s women are the principal food preparers- kitchen worker- but what about in the other energy types? Do you see there is a difference in access between the genders?

RESPONDENT: So, you know, for example we worked in the villages around XXXX where there are a lot of looms at home. Those looms- during the day they are worked by men because women are busy with cooking primarily. As the light fades, that’s when the women come in. Now once solar lighting was made available and actually solar powered looms became available, we saw that there was- I won’t say a competition- but men were no longer hesitant to work in the non-sunlight hours.

INTERVIEWER: -at night. Okay.

RESPONDENT: So, XXXX- I’m making a generalisation from observations- anecdotal observations, you know yours is a qualitative study so you may have a way of verifying it, but this is not a – it is not a statistical thing on which I have written a paper about.

INTERVIEWER: Yeah, totally understand. So also, so this is in terms of you know, within the household how energy usage changes and there is a different- there is a differentiation between gender, but do you see that energy usage and access to energy also differentiated in say for example, community or income groups- or older and younger women- say age groups- do you see a differentiation there too? Even religious, ethnic or cultural groups?

RESPONDENT: I don’t know. You know XXXX, I don’t know whether you are interviewing my colleague XXXX XXXX.

INTERVIEWER: XXXX.

RESPONDENT: Okay so, XXXX knows much more about this than me.

INTERVIEWER: Yeah, XXXX. So, what key infrastructure has your work been involved in providing which would be- which do you think you would name as the key infrastructure you have worked on?

RESPONDENT: So, there are two, one is obviously the ‘XXXX’, but the other is also the long-term goal of improved XXXX. So, I would say these are the two key things that we have pushed, worked, advocated for a long, long time.

INTERVIEWER: When new energy infrastructure technologies are provided, what in your view are the differences between men and women and who benefits out of it? Like larger infrastructure policies and technologies which are thought of- who do you think benefits more?

RESPONDENT: You know, I would actually ask the question at one level of aggregation above this. There are certain- there are certain work which is considered largely to be done by women and there are other work which is considered largely to be done by men. Where is it that we have seen energy needs being addressed more- if that is the issue, if that is the question then the answer is clearly in those activities which are done by men. So, if you’re looking for examples, I’ll give the example of the looms near Benares but also- and this is based again on personal observations on my agricultural field in XXXX- the vast amount of harvesting, planting, sowing is done by women. It’s not as if it’s exclusively women but it’s largely women. For them this is an additional income. We’ve not seen low-cost interventions being developed which can reduce the cost.

INTERVIEWER: So, you think this comes down to who makes the decisions?

RESPONDENT: Listen, this is a tough question because at the level of policy it is very clear that women and women’s problems are clearly addressed in policy not now but forever. When we look at the development and marketing of energy technologies it is a slightly more difficult question because it is also dependent on the potential market. So, the government has pushed the LPG program- it’ll help women. But who makes the decisions- men! So, places where men, for example: buying a motorcycle. Earlier I had a cycle, now I have a motorcycle- that’s a men decision. And therefore, setting up a petrol pump across- becomes easy, because I have to sell petrol. It’s not as if somebody made a decision- but it’s because of the larger buying power that the motorcycles come in, once motorcycles come in, petrol pumps come in.

INTERVIEWER: So that actually boils down to even what you were talking about the LPG connection, so also technologies or appliances within the home also get- those decisions also get gendered because the person who’s making the decision is the man because he is the one who probably has the financial power in making those decisions, right?

RESPONDENT: Probably yes. I mean this is our- this is the basis on which we run.

INTERVIEWER: Yeah, I mean, I’m just inferring from what you’ve been talking about, seeing if I’ve got the inference correctly. So, do you – do men and women participate equally in decision making about energy access?

RESPONDENT: Do women have a role when it says – we buy a motorcycle, or which motorcycle we buy? No, they don’t. Do men have a role if I’m going out- if I’m a woman and I’m going out to cut wood for cooking- do they have a role in where I go or what I cut? Probably not. So, it is very difficult to answer this question. Because in a certain sense it is based in history. I do it because my parents did it, my parents did it because of my grandparents did it. So where do we break- the link can only be broken if you have the technological intervention. That’s when we discover what are the kinds of gendered biases that are there. So, the LPG one has been very revealing.

INTERVIEWER: So, is there a similar difference in gender equity in energy access between the urban and rural context? I mean of course there is access- there is a difference between-

RESPONDENT: The answer, the answer is yes, obviously it shows up in different manners, so you know, because- there are two things you know, one of the things is there is a- within urban areas it is very difficult to cook based on biomass. It’s just impossible because houses are not made accordingly.

INTERVIEWER: But Sir, I have seen even in urban, like in Kolkata and all I have seen women using cow dung in the especially in the *‘basti’* (slums) areas and all, I’ve seen. So, it’s still used- I don’t know how much it is used but it is still used.

RESPONDENT: Yeah, so- no you’re correct, you’re correct. But there was a paper which looked at this and I think it is way back in 1990s, which looked at the amount of traditional biomass usage in the urban and rural areas and also according to incomes. And I think it was based on the 1996 NSSO survey of the household energy usage. So, one of the key findings was that- generally speaking if you have a curve on various technologies that are used- there is an urban curve and there is a rural curve. And even for the same income levels- you’ve got dirtier fuels being used in rural areas than in urban areas. So, it’s not as if- in urban areas- cow dung and biomass is not used. It is used- but it is far less than it would be if it was in the same income category in the rural areas. So that’s the central point. *XXXX.* Also, what happens is- you live in Kochi. You try to buy wood for cooking. I can bet you- you won’t even know where to go. So, the question came to me a few years ago- many years ago- when I wanted to get charcoal for a barbecue grill. And I was told that there was a (stall) which sold it which was god knows where. So finally- the guy who irons clothes said (in hindi) *I will get it* *from there, you take what you want from me.* So that’s how we did all these years.

INTERVIEWER: Yeah.

RESPONDENT: So, the question that you’re asking is- is there a gendered issue here? Again- this is very largely dependent on the structure of the household- so if you got two income households there’s a lot less issue in energy- in gendered energy decision making than there is in households where you have stay at home women – when you stay at home.

INTERVIEWER: Even across economic sections- because a lot of times-

RESPONDENT: Same- same- same economic section so-

INTERVIEWER: Yeah, of course, so what I mean is in most of the lower economic sections it is often a double income home because a woman also has to step out and earn…

RESPONDENT: You’re right, you’re absolutely right. I had not thought about that. Yeah. Those are- those double income homes. No, I can’t answer that question because this would need a study. Yes, there are double income homes but what I’ve seen – is that if they’re double income homes- even in rural- even in lower incomes they move to LPG very, very soon.

INTERVIEWER: Okay so you think that the women then have a- have some voice in the decision making.

RESPONDENT nods in agreement.

INTERVIEWER: Okay. But again, this is your anecdotal understanding as you said-

RESPONDENT: This is my- this is an anecdotal understanding at this point.

INTERVIEWER: Okay. So, when we look at your work on energy access how much does gender equity factor into that? Into the design of the work that you do in the projects, priorities or internal processes.

RESPONDENT: Well, first of all, it’s always there. But depending on the kind of intervention being done- it depends- that determines whether it is a primary or secondary issue. So, for example if we’re looking at- for example right now we’re looking at solar pumping. Gender is not as much an issue. On the other hand, when we were looking at the provision of electricity to households- gender was an issue.

INTERVIEWER: So just a clarity- solar pumping meaning?

RESPONDENT: Solar pumping means you have an agricultural pump in a solar- in an agricultural field and instead of using diesel or electricity you use solar panels.

INTERVIEWER: Okay, right. Okay, but then when we move the water pumping into the home environment- then of course because water is again- becomes a part of the women’s work.

RESPONDENT: Yes, absolutely. So that becomes important.

INTERVIEWER: So that way. So, could you give us some example of how do you factor in gender equity in-

RESPONDENT: So, there, there are always there are two issues. The first is an economic issue. And the second is a participation issue. What we have found is that economic issues are not easy, but easier to address than participatory issues. And so, for example, the LPG one, getting the person to go and get the cylinder is amazingly difficult. Which is why I’ve been telling my friends that IOC, that listen- you have to somehow- doesn’t matter if it costs more- you have to make the LPG cylinder available at the doorstep. They haven’t - they’ve never agreed with me- but I think this is going to be one of those things that’ll determine- two cylinders is one thing, but this is the other thing that’ll determine how we move ahead. Other examples. one of the key, you know, lighting is important- one of the things that we found very interesting is that… younger women with children stay at home, older women and men work in the field. So, during that hot summer day- it’s younger women and children who are at home. And we saw fans appear. I don’t know whether it was the women or whether it was the children who was the originator of the demand and who has the greater role, but it is interesting that we do see a mixed thing. There’s also some amount of keeping up with the Joneses involved in this also.

INTERVIEWER: Yes, of course. So how do you see these efforts of gender equity that you try to factor in- do you actually see an on-ground result from that? Where certain access is becoming more balanced?

RESPONDENT: (In Hindi) ‘Its like this’solar lighting and LPG for cooking have made a difference. There is absolutely no doubt.

INTERVIEWER: Okay. In terms of correcting the imbalance of access also.

RESPONDENT: Absolutely. Because you know, once you’re invested in the tech- the great advantage is specially in solar, much more than LPG- is that once you’ve invested in the technology, their running costs are near zero.

INTERVIEWER: Sure.

RESPONDENT: The LPGs the running costs are not zero and hence it is a battle that needs to be fought every time the cylinder needs a refill.

INTERVIEWER: Understood. Okay so outside of these aspects of your work specifically, in other energy areas, where you are not probably directly working on- over there what do you feel- which parts need to look at gender sensitivity?

RESPONDENT: So, I will come back to what you had pointed out. You know, we are looking at the basic cooking, but there is a much wider range of action that need to be done- grinders is one example of it. But I think, so that is something which we don’t look at, but I think it is an important issue. The second important issue is that related to washing of clothes. That’s an area where we find that the amount of- you know it’s because women are supposed to do these kinds of jobs which take up a lot of time and for which devices have not come in – they get kind of locked into them, they get chained into them.

INTERVIEWER: And it’s actually the ones which require a lot of physical labour- both grinding and washing of clothes.

RESPONDENT: And *time*- (in hindi) what happens is, what happens is… that they don’t have the access- the time to do other things which means livelihoods which means money coming in, which means greater economic power.

INTERVIEWER: Yeah.

RESPONDENT: And the third is livelihoods. I would strongly- I mean I already do- at any opportunity I get- to talk about the importance of making of moving towards livelihood-based solutions- with in which there instead of using brute energy you can provide motive energy- mechanical or electrical energy.

INTERVIEWER: And when you mention livelihood it is also particularly interesting because homebased economic work is also something women do a lot more than men. Men usually step out to do work while women work at home.

RESPONDENT: Again, I would say even though it is a cyclical- not cyclical- it is a peak based thing to harvest or sow or whatever. That’s the time when you see a lot more women in the agricultural workforce than at other times.

INTERVIEWER: But like for example when I see in Kerala, there’s a lot of women who are working from home say in running a tailoring shop, you know, or a tailoring unit which employs another 10 women.

RESPONDENT: Absolutely.

INTERVIEWER: So those are all electricity needs.

RESPONDENT: Correct.

INTERVIEWER: So, from that angle what do you think are the policy gaps around women’s energy access- both at- I mean I would like you to, if possible, to answer at local levels, at national levels and what you see at international level.

RESPONDENT: No, that’s not how the answer is. The answer is at the level of the entrepreneur which is in essence a local thing. But the second is at the level of how those entrepreneurs get their funding- so that’s the banking level. And the third is the policy level because banks lend- one, for what there is a demand, but they also lend for what they are asked to. Now the key issue is that we- the place where the intervention is needed is at the banking sector. We have, you see, there are quote unquote ‘recognised’ financial flow networks. Agriculture is a recognised financial flow network. People who do clothes- you know, the stitching shops that you’re talking about, or even, you know there’s a lot of women who make food and sell it to- those things are quote unquote ‘not recognised’. So, I think at the policy point of view, there needs to be not a reservation but an encouragement to banks to lend for these small enterprises. Now there are all kinds of issues involved, you know if a bank lends, they’ve to get a collateral, it has to be a company, etc., etc., etc. You know, if it’s in agriculture the land is a collateral- what do you do as a collateral in a stitching shop? The machines, etc.? They’re worth nothing. So, there are those kinds of issues- so risk- risk guarantee schemes becomes important as far as policies are concerned. So, it’s- you know- a slightly different-

INTERVIEWER: It’s an extremely gender impacting point you’ve made.

RESPONDENT: But it’s a different …

INTERVIEWER: Women have less access to collateral, yeah.

RESPONDENT: It’s a different kind of discussion. It goes into areas which we normally would not associate with.

INTERVIEWER: Yeah, interesting- yeah. So that is – we were looking at these kinds of policy gaps but what about social policies? How do you think there are changes required in some social policies for energy equity? Is there any connection you see between social policies and energy equity?

RESPONDENT: So, for example when you look at a policy to provide loans for this, that’s a social policy.

INTERVIEWER: Okay.

RESPONDENT: You know, it depends on how you define MNREGA- in my view MNREGA is an economic policy but it’s primarily for social needs. So, it’s very difficult to separate them out. I- because they’re worked through- the State has some levers. The State cannot tell you- XXXX you will not beat your husband tomorrow. But what they can say is- if we get reports that you beat your husband, we will not give you a loan.

INTERVIEWER: Yeah, okay. Understood. But the State does say the husband can’t beat the woman. [DR. XXXX laughs.] You’re right- it doesn’t say the reverse. So, looking at your vision- if we don’t- if we forget all the policy and financial constraints, just from a utopian point of view- what in your view would be the best practice for achieving gender equity in energy access? Within your work context.

RESPONDENT: So ideally what we need is availability of adequate and low-cost energy, so therefore moving towards solar+ battery systems which can meet people’s needs whether it is for an induction stove or whether it is for lighting or whether it is for running the loom. To me, that is where the answer lies. The answer also lies that we will always have a mix of grid and decentralised and therefore the ability as you use the word plug-in, that’s where the- that’s where the future is.

INTERVIEWER: Okay. And what are the challenges you find in achieving this?

RESPONDENT: So, okay. The challenges in a sense are very easy to say. It’s a different matter how you’ll address them. So, the first challenge is the highlighting the priority of - largely the- those energy needs which are largely women based.. LPG is one. The second is how do you get companies- whether it is electricity distribution companies or LPG distribution companies- how do you get them to make those decisions which means that they spend more money and electricity distribution companies are running on a loss…. How do you get them to make those decisions which make access easy?

INTERVIEWER: Okay, and how do you think you or like… your organisation- how do you think you can help in achieving this or addressing this challenge that you’re talking about? Basically, you’re already doing that with coming up with strategies for commercially viable technology, right?

RESPONDENT: So, you know, one of the areas where I … how I have been working is- I mentioned work both on technologies, on business models and on policies. That’s one, but I think the area where I think we need to greatly enhance our work- this is a moving target because the challenges keep changing- it is financing. I think that’s an area where we’ve not spent enough time.

INTERVIEWER: Okay, okay. So, we have talked about this kind of a little bit- but I’m talking more in terms of decision-making bodies, whether in governments, within implementing agencies, delivery structures- how balanced is the gender representation in your experience in these decision-making bodies? We do a very simple calculation sir, how many women per men in the room?

RESPONDENT: Yeah, you know- decision making – a panchayat is a decision-making body.

INTERVIEWER: Yeah sure.

RESPONDENT: A company’s board of directors is a decision-making body. And the planning commission and now the XXXXis a decision-making body, well it’s not a decision-making body, but the ministry is a decision-making body.

INTERVIEWER: Yeah.

RESPONDENT: All of them are decision making bodies. They reflect the social milieu, the social concerns of the people who are there. So, if the vast numbers of people are subscribed to the ideology of gender equality, you will see gender-based decisions coming out- so that’s why you’ve seen from the government of India, even from the State governments, you’ve seen decisions coming out which are, which moot.. gender equality.

INTERVIEWER: Okay, sir- my question was more about gender representation in these bodies- not about the decisions but the constituents of these decision-making bodies, the members, the number of people.

RESPONDENT: (in hindi( So its like…you know, there is now this thing that one third of the members on local bodies are women. The reason that was done was primarily to ensure what we’re talking about. Not only in energy, but in other areas as well- women’s views are taken this happens… There are more, there is a greater percentage of men in the workforce and so it is. If that is the case- it is not surprising that you have more men in any of these decision-making bodies. But I would say this is a statistical thing- if you have a lot of women enXXXXng then sooner or later, they rise to the top. Do you know this fellow- one of these luxury brands- they had a – they have a change in CEO, and he was asked why- I think it’s Armis brand- why isn’t it a woman who is becoming the CEO after you? And he said it’s not a matter of a man or a woman, that there are enough women who are rising and therefore it’s only a question of when- whenever you find an appropriate woman the woman will come there. So, I think it’s a matter of statistics. What you need to ensure is that more and more women come in. When there is a large enough choice- you will have a greater representation of women also.

INTERVIEWER: Okay, but at this point- at this point there are more men.

RESPONDENT: At this point- there is- there are more men in the workforce. If I remember correctly the percentage of women in the workforce has actually declined.

INTERVIEWER: Yes sir, yes sir. According to the last census it has- from 33% it has come down to 25% and for urban women it is 20%.

RESPONDENT: 20?

INTERVIEWER: Yeah.

RESPONDENT: It’s lower?

INTERVIEWER: Yes. For energy access finance processes for renewable energy- do you think that is-

RESPONDENT: XXXX, I’ll have a hard stop in about five minutes at 11:55.

INTERVIEWER: Okay.

RESPONDENT: Do you think you will be able to complete?

INTERVIEWER: Yes, I just have two more things and then I’ll- we’re done. So, one was about finance processes which you have kind of talked about already in terms of funding for certain finance processes which are either gender aware or gender sensitive. So, I can actually skip that. So, I would really go into- is there anything else you feel are pertinent to this discussion which I have not asked you about? Anything you would like to add?

RESPONDENT: So, you know- if you ask me the greatest challenge is- reflects around the point you made about grinders. When we are developing these kinds of devices, do we have inputs from that demographic group which is the user of these? And consequently, I think one of the key challenges is how do you expand the experiences and the needs that the developers of these technologies- so you know if you have say a manufacturer of home devices- are there- is there an adequate representation in the board of directors of that company- who will say, you know, this is a demographic that we need to address.

INTERVIEWER: Okay, okay. That’s very true. Okay Sir, can you refer anyone else you think we should be talking on this topic? If you can suggest any names I can follow up- I mean both XXXX I’m talking to already-

RESPONDENT: XXXX you’re talking- what about XXXX?

INTERVIEWER: XXXX… I do have her name.

RESPONDENT: Okay, I think she’d been in this area for a long, long time. What about colleagues in XXXX?

INTERVIEWER: XXXX, okay.

RESPONDENT: Because they have an energy program now, well they’ve had it for ten years now.

INTERVIEWER: Okay, okay. And if there are any follow up questions at the time of us going through the (collect data), will you be available to answer some of them? Over email or over such a small-

RESPONDENT: You can just write to my email.

INTERVIEWER: Yeah, okay. Thank you so much sir, thanks a lot. And it was- as you found out you had a lot to share with us- because someone of your experience would always have so much – it was an extremely learning thing for me and thank you so much for this. And I’ll keep you updated on the-

RESPONDENT: Okay, I look forward to it.

INTERVIEWER: And I’ll be sending you up the transcript of the interview as soon as I finish.

RESPONDENT: Okay.

INTERVIEWER: Thank you sir, and a very good- have a very good day. Thank you.