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| **Interviewer name**  | INTERVIEWER |
| **Sub-contractor organisation**  | ARU  |
| **Interview date**  | XXXX  |
| **Duration of interview audio recording**  | 1 hr 13 minutes 55 seconds  |
| **Face-to-face or virtual interview**  | Virtual  |
| **Interview participant**  |
| **Code**  | I9  |
| **Participant name**  |  |
| **Organisation name**  | **XXXX**  |
| **Gender**  | Male  |
| **Stakeholder category**  | Professional working in a Government owned large Power Distribution Company  |
| **Country**  | India  |

Introduction

INTERVIEWER Good afternoon.

RESPONDENT: Good afternoon.

INTERVIEWER I'm from XXXXand we are participating in this project … research project which is conducted by- under the aegis of Cambridge University by Anglia Ruskin University, and we highly appreciate your time in participating. It's a study that aims to obtain a better understanding of energy access and gender equity within India. Before we start, I would like to check a few mandatory points. Number one being have you completed and returned the consent form?

RESPONDENT: Yes, I have sent you through mail this form.

INTERVIEWER Thank you - thank you so much. 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, ma'am, yes, you can start.

INTERVIEWER The interview will be transcribed for analysis and a copy of the transcript will be shared for your approval. All the information we obtain serves the sole purpose of the study and will be seen only by the research team, your name and any other identifying features will not feature anywhere in reports and other publications emerging from this study.

RESPONDENT: Okay.

INTERVIEWER This interview will take more or less one hour. So shall we proceed?

RESPONDENT: Yes, yes.

Part 1

INTERVIEWER Okay, sir. Can you start by briefly telling me a bit about your current role, position and the organization that you work for?

RESPONDENT: I am working as XXXXX. I did my Bachelor Degree in Electrical Engineering from XXXX University. I also did MBA in XXXXX.

INTERVIEWER Could you also tell me a little bit more about how long you have been associated with energy issues?

RESPONDENT: I am actually associated with this utility since XXXX. And at the beginning, I was in operation field mainly, I have to maintain my system and subsequently as I promoted to higher level, then I linked with the operation as well as planning & monitoring with focus on other new & innovative ideas to be incorporated in the organization through different projects & their progress monitoring etc.

INTERVIEWER What kind of programs - specific energy related programs have you been associated with?

RESPONDENT: Actually, as I am posted at the XXXX Cell at the corporate level, I am associated with different projects which have been carried out by the company time to time. I can give you a brief idea about the state's energy access perspective. In the year 2011, our rural household electrification status was only XXXX. Present achievement status is XXXX, these are remaining unelectrified- we are trying to electrify those odd locations through solar or other means because extension of grid is difficult at the these very critical location / remote Islands. From our energy perspectives, our per capita consumption was initially XXXX. This is the process and at that time our consumer strength was 86 lakhs and now we have a consumer customer base of 2.1 crore.

INTERVIEWER 2.1 crore who are all connected to the grid.

RESPONDENT: Yes. All are connected to the grid.

INTERVIEWER And the grid is mainly through - what is the power supply mainly coming?

RESPONDENT: Mainly, our power source is 72% is thermal power and 25% is with hydel and 3% is renewable energy as yet…

INTERVIEWER Okay, so, so, are there any initiatives which is looking at increasing the renewable energy component within the grid? Like a lot of places we are having these smaller solar support systems for to supply power to the grid. Are there any such-

RESPONDENT: Yes ma'am, yes ma'am, as I told you earlier that the 5, 6 Islands we have tried to provide them solar power supply and apart from that XXXX has taken initiatives to explore RE Sources during last two years, around 100 MW (megawatt) Ground Mounted solar power plants and 12.5 MW rooftop Solar have already been installed , another 200 megawatt solar power plant will be establishing at Paschim XXXX district with interest free funding from KFW. INTERVIEWER This is in XXXX?

RESPONDENT: XXXX XXXX, XXXX XXXX. It is also explored whether battery energy storage can be provided in XXXX system. Recently we have a study with XXXX did this study and as we have a very unique feature in our power system that is 900 megawatt XXXXproject at XXXX XXXXproject, it gives us enormous support during peak hours, so actually for battery energy, we normally think that it will provide the power supply during off peak hours and it will be charged during off peak hours or daytime but it is not feasible- economically viable, it has not become economically viable for our networking system or system which we are being carried out and we have planned for another 1000 megawatt power XXXXproject at XXXXX.

N: *Can you give the spelling? (Bangla)*

RESPONDENT: XXXX.

INTERVIEWER *Where is it? (bangla)* Exactly.

RESPONDENT: At Ajodhya, Purulia, beside Purulia XXXXproject another we have also explored that is at DPR stage that is all Bondhunala it is adjacent to XXXX, all are at Purulia because their geography is very unique. So that we can explore it for XXXXproject. Bondhunala - this is another 1000 megawatt XXXXProject which all will support during off peak hours by drawing load for pumping purposed when power prices vary becoming very low 1.5 to 2 rupees per unit and provide base loading to the existing thermal power plants for sustainable economic operation and during peak hours it generates when power price reaches to 7.5 to 8 rupees, even 10-12 rupees per unit . So, it is helping the system substantially by providing support during peak hours.

INTERVIEWER *And these remote places that you were talking about where it is hard for the grid to go. There, even micro hydel like help can be given (bangla)*

RESPONDENT Yeah, micro hyrdal *is* (bangla) geography. Sundarban is practically *completely* *(bangla)* flat with- Sea. *Here we just want to do solar projects. We want ground mounted solar. (bangla) We are also exploring all possibilities of extending our grid to inaccessible areas also by erecting grid towers.* We are exploring for that also. That’s very few – 5.. 4-5 islands, that’s all.

INTERVIEWER Okay, no, because some of the states I was talking to people, a lot of the times they're especially remote *(bangla)* *places* …what they're doing is they're creating a smaller solar substation, which then uses the grid and it kind of, you know, replenishes the shortfall from the grid where there is erratic power supply *(bangla) that’s what they are doing* so I was just wondering if that is something you are using.

RESPONDENT: Madam first point, we are energy surplus state. This is first point.

INTERVIEWER Okay. So, you don't have the problem.

RESPONDENT: Yes, yes. We do not have the - we are providing 24X7 power supply to all our customers, even at farthest end customers. Apart from breakdown under odd natural calamity because our major power system is in overhead system. So, during odd hours or Northwestern the breakdown- except breakdown we are providing 24 hours power supply to all rural and urban consumers. So, we have no such problem that we have to provide the solar grid to provide powers and majority are connected with grid and we are exporting power to Bangladesh, you also know that we are exporting power to Bangladesh also.

INTERVIEWER Yeah, yeah. So, this aspect of energy access, I mean, this is basically power access that you are working with - have you seen a differential access in your work, like some areas or some programs where certain groups of people have lesser access to power than other people?

RESPONDENT: No madam, actually we provide power supply or accessibility to all but we- after providing power supply in the year 2016, we have almost 95% of our households electrified, at that time we focused on low voltage blocks -within the state, we focused the low voltage area low voltage blocks where the power quality has to be improved, we are focusing on local power quality rather not accessibility, accessibility is not an issue now, in the year XXXX we found that around 223 blocks are in the low voltage blocks. And in at this juncture, it has now reduced to 11 blocks and it will be completed by March 2021. It has been planned accordingly. It is merely infrastructure upgradation which it needs.

INTERVIEWER Okay. So, this low voltage blocks is basically where like the grid infrastructure was poor and you had to upgrade that?

RESPONDENT: Yes, yes madam, yes madam. Many- many new 33 kV substation- construction is the issue after construction of new 33 kV substation, major issues are solved because initially we extended the LT mains for bringing quicker accessibility of Power to all, after that, we have to upgrade our sub transmission and distribution substation network. So that the quality issue can be taken care of.

INTERVIEWER So these areas of low voltage blocks- where were these areas, *where were they? (in bangla)*

RESPONDENT: At - at different districts, at different districts- XXXX at various districts, because at the farthest end of feeders generally these has become an issue, new distribution substation, new transformer installation had solved the problem partially, new 33 KV substation, which are on the process of installation now, after commissioning of those substations, it will be resolved in totality.

INTERVIEWER So was it the more remote areas or-?

RESPONDENT: Certainly, certainly, at rural, at more, more rural and more, more rural areas. Yes. They are mainly in rural & remote area.

INTERVIEWER Rural and more disconnected areas were which were facing this infrastructure problem?

RESPONDENT: Yes, yes, yes. Yes.

INTERVIEWER Okay, okay. So, the differential access was basically distance from the main town hub- that is (audio break) that was what was -but you are addressing that is what you're saying.

RESPONDENT: Yes, yes.

INTERVIEWER Okay. So, in relation to the regulations and policy context, that you are *operating (Bangla) Electricity Act is there, and of course, definitely the government- West Bengal government various policies are there, that you were telling me right now* even 100% electrification and all. What current issues or developments at in the policy level influence your state and state- influence your work, both at state and national level, what kind of policies influence your work?

RESPONDENT: Actually madam, our utility, our utility is operating since last decades, self sustained manner, we have not any critical policy issue and after the installation of WBERC Regulatory Commission, we are guided by that Regulatory Commission and they are allowing us the loss level, we are improving our performance efficiency. So that and in that phenomena we introduced...hello?

INTERVIEWER *Yes, I can hear you.* (in Bangla)

RESPONDENT: *Alright*. (Bangla) We introduced outsourcing activity in our non core activities, say line maintenance, substation operation we introduced outsourcing so that employee costs can be reduced and performance can be enhanced by supervision of outsourced agencies. This Operating Procedure reengineering has- had been made. So, that cost effective service and quality service can be provided to the customers otherwise we are not facing so much issue but loss is an issue in our- we are concerned and we are chronologically reducing this loss factor because at remote end, the theft of electricity is an issue -was an issue. And we are also plugging it with technological intervention and our supervision mobilization everything. Earlier our LT mains was overhead, naked – bare conductor. Now, we- last two years we XXXXX .

INTERVIEWER Okay. So, are there any key policy challenges that you face?

RESPONDENT: Key policy challenges means our... main cost effective performance is our challenge otherwise policy issue is not an issue in our - because we are doing well and since reform, our reform was made in the year 2007. Since reform, we are earning profit and we are maintaining our system well and we are augmenting our system well and we are getting the funds from different projects- we are tapping those projects which our government of India is being brought and the state government also provided funds for underground cabling at urban & sub-urban areas, we are upgrading our system as such no such policy issue is here. But now, another policy issue will come that will be renewable energy or solar energy. This is a challenge for our part because the stringent guideline regulatory authorities are going to provide the quantum of renewable energy to be put in our total power portfolio - that is a challenge and the cost effectiveness of that renewable energy is an issue. Otherwise not so, issue is we are facing.

INTERVIEWER Okay. Okay. So, you mean from the present grid system when you have to actually incorporate that percentage of renewable energy which must be part of your power portfolio-

RESPONDENT: Yes.

INTERVIEWER -there is that shift which you have to do and you still have to do it within the economics of what the end user is willing to pay.

RESPONDENT: Yes, exactly.

INTERVIEWER So with all of that is the policy challenge that you perceive in the future?

RESPONDENT: Yes.

INTERVIEWER Okay. So, what reform were you talking about? Is it the reform of the electricity deficiency?

RESPONDENT: Actually, actually, in the year 1985, generating company was formed in our state during Kolaghat Purba XXXX, Kolaghat thermal power plant - when it was came into the picture for the installation of the power project. In the year 1985, WBPDCL, that is generating company was formed and subsequently in XXXX fold power plants, that is Santhaldih, Bandel.. (Power plants) these - these were sent in the fold of WBPDCL. And we were operating then as WBSEB the West Bengal State Electricity Board as transmission and distribution utility altogether. Here reform was made on February 2007. When transmission and distribution sector were separated. Since then, our XXXX is functioning as Discom after reforming and WBSETCL is separately functioning as a Transmission company.

Part 2

INTERVIEWER Okay, okay. So if we look at energy access, what does equitable energy access mean to you, personally, what do you think of it? I mean, if you if you know that United Nations Sustainable Development Goal Seven talks about equity of energy access as a principal requirement for universal development, universal and equal development. So what does equitable energy access mean to you?

RESPONDENT: As you told our energy access means not only household, our energy access to the industry, to the agriculture, to the other cold storage, agro products, this has to be maintained with the quality power supply and we are maintaining it and we are thinking in another way, as learnt our government is just thinking thought for providing induction cooker to the customers. So that gas energy which are being used that can be converted to the electrical energy- gas is expensive, its efficiency is not at the level of induction cookers' efficiency. And it is thought that 1.2 kilowatt induction cooker to each household to be provided with the contribution of government support and partial contribution from the customer. Initially the customer contribution will be provided by the power utility. Through EMI it will be realized from the customer. This is one thought we have, recently gathered but yet to implement, it is on the process of working. so that the fossil fuel burning or wood burning, oil burning can be reduced and pollution will be under control

INTERVIEWER Right and within this then like actually *when you were talking about induction cooker (Bangla),* what does gender equity in energy access mean to you?

RESPONDENT; Gender it is automatically it will cover the female- female genders because they are working with gas they have to be converted to the clean and green energy use in the electricity form by induction cooker, this- this will make a substantial difference within gender equality- make a balance tend to have balance because in the industry generally the men workforce are used for using the energy for production or agriculture or the farming also, but if we introduce this - at the cooking media as an energy use then gender equality will become a balanced state.

INTERVIEWER *Right, this- meaning this talk about the induction cooker that you were saying (in Bangla),* it's a very critical point in gender equity, because the central government also has these Ujjwala schemes which is focusing on LPG connectivity. So, why did you feel that the in - that induction cookers are required to cover what gap?

RESPONDENT: Madam, LPG is normally it is more costly and it is most of the me- a- good quantum is being, we have to import and for electricity It is our own resource we can have, from our fossil fuel or solar whichever we are exploring and I from the efficiency point of view the gas effic- one cooking from gas and cooking from induction cooker is more efficient cooking from induction cooker.

INTERVIEWER Okay. But do you -is there a network problem with the Ujjwala scheme in West Bengal? Do you see that?

RESPONDENT: No, actually...Ujjwala scheme it has been provided to the households and rural households with no issue that was, that was not an issue.

INTERVIEWER Okay, okay. So th reach is- the reach is quite extensive.

RESPONDENT; We are trying to convert these gas usage to this electricity usage.

INTERVIEWER Okay, okay. Right. Okay. Just wanted to clarify that. So*, (bangla)in your work*, how is demand for energy determined? Consumer needs demand for energy, *how do you map that? (bangla)*

RESPONDENT: *Our- (bangla)-* mapping means?

INTERVIEWER As in how do you- how do you understand consumer needs and the demand for energy in your work? Do you - do you depend on certain data collection, do you -does your organization do any data collection? Do you base yourself on some certain other government data? How do you know and how do you then project it *like, right after 5 years we will need this much (bangla).*  What is the process used to determine consumer needs?

RESPONDENT: Actually census is a basic data which we preserve and the past history- CAGR average growth, these are the another data and the industrialization, agricultural farming connection, these are the future agricultural connections which we propose to effect- these are the data which are using for future demand growth.

INTERVIEWER Okay. So, in this this data so, you depend upon government data - central government and different other state government data right?

RESPONDENT Yes, yes.

INTERVIEWER Is there any differentiation- different, differential access mapping, which happens- diversity in access mapping, which you see within the data collected; like to explain in the sense that does the data give you an understanding that okay these group of people might have lesser needs or use lesser energy or get lesser energy anything like that?

RESPONDENT No, no, no.

INTERVIEWER Diversity mapping. What we call diversity mapping…

RESPONDENT Energy perspective, in energy perspective, whenever any consumer wants to use energy, he or she has to apply or approach before us at our different customer care centers. And accordingly, we are providing their connection and according to the load demand of the locality or individual household, ultimately at the locality, we upgrade our system and in this process, we have the past data, past 3, 4, 5 years, 10 years data with this growth as you- as I told you earlier, that since 2011 to 2020 last 9, 10 years, the massive growth was there. And from last three, four years growth, we are- now we are observing that growth is not so high as 100% electrification has already been made.

INTERVIEWER Like stabilising?

RESPONDENT Almost stabilizing, but in our state , agricultural production is a very key issue. Earlier in the year 2016 there were 1 lakhs Agri pump sets energized in electricity. Now, we have made it 3.5 lakhs Agri pump sets in our system, it will, it will grow, it will grow and with the extension of grid the accessibility to the pumpsets will become more easy. Our state government is very supportive in this sector development & did financing also. So, that consumer can be covered with this agricultural connectivity otherwise industry and other kind of process industry whichever they want to get our connection, we are providing the connection. Agriculture is an issue if we- agricultural consumer we have to agricultural growth for agricultural work, we have to plan for agricultural connectivity and accessibility to those agriculture consumers.

INTERVIEWER Okay, now *you were just (bangla)* you were talking about these differential loads which different localities have, right, and based on that, and so, that's what I was talking about. So, not all localities would have the same power needs, right?

RESPONDENT Certainly.

INTERVIEWER Not all groups of people also will have the same power needs. I mean, just very overtly, *if we take a look at (in Bangla)* between urban like Kolkata, different parts of Kolkata versus different parts of, remote parts of West Bengal, there is obviously a difference in the power needs, right - electricity power needs?

RESPONDENT Yes, power needs and need growth - growth also have it …..

INTERVIEWER Yeah, so in the data collection process, is there any way you are highlighting these different- different needs in the diversity of needs?

RESPONDENT Certainly, in - in the area which is in a district, urban area has separate data, we have- we have to power supply through our different 33 kV substations, we have the substation data including its feeder, loading data and our all feeders are metered. We have every 15 minutes interval loading in the meter and according to data, we have to make the future planning for new feeder drawal or new substation construction, these are being carried out easily by using the metering system- we, we understood - we can understand the locality wise load growth picture from the meter data of the power system.

INTERVIEWER Right. Do you see any connection with the load difference?

RESPONDENT Load difference means?

INTERVIEWER And the kind of people, other than urban, rural, remote, city centre- kind of situation is there anything else that you notice in terms of I mean, it doesn't have to be part of data or anything, it can be just something you have noticed that these kind of areas, these kind of people, these kind of groups of people use or access less energy?

RESPONDENT Yes, and at this juncture, what is happening last five, six years, the air conditioning usage has been increased at the urban and semi urban area, we had to prepare the plan and we had to make our system ready for those connections, these - this is the need of urban and semi urban area at this juncture, and similarly, at the rural area, they have gained the power purchase ability and they are also using the fridge etc. earlier, there was only one fan and two bulbs, but now, it has been increasing day by day with the gadgets they are incorporated in our system. In the urban area - washing machine, fridge, all the AC these are common phenomena and this is an issue to some localities, the distribution transformer which are being fed to the locality, it is get overloaded in the summer, we have to plan accordingly. This is the differential use of energy you can consider.

INTERVIEWER Right, right. So, do you see a difference- how equitable is energy access at household level? If you look at it from gender- gender equity, as in do men and women use the same amount of energy at a household level?

RESPONDENT (laughs) Actually, men and women together use- uses energy in the, in the house, when- for a family and actually for how can you distinguish between men and - gender equality?

INTERVIEWER Because, because in a house, I mean, let me explain this a little bit more. Like, in a home also, generally men and women do different kinds of tasks, right?

RESPONDENT Yes.

INTERVIEWER So the usage of energy also depends, like changes based on the tasks that you do, isn't it? So I mean, like one of the things if I'm- I'm not looking at electricity, I'm looking at say for example, cooking LPG. Now, that's an energy which we would say mostly women use because-

RESPONDENT Yes, yes.

INTERVIEWER -In most households women are the ones who are doing cooking, right?

RESPONDENT Yes.

INTERVIEWER So, there is a -there is a difference in how men and women use energy within the home, based on the kind of activities they are doing within the home. So, in that what- do you see that how do you see men and women using equal amount of energy or do you see some difference in that?

RESPONDENT In that perspective, the cooking, if you consider, in cooking female activity is more and at present washing machine are using it at the urban level generally in all households, it is also the activity of the women and for light, fan - it is common you can consider it - for TV consumption. It is mainly using by the women rather than the men gender you can...extend-

INTERVIEWER So what do men use energy for at - at the household level?

RESPONDENT Men use?

INTERVIEWER What do men use energy – power, electricity *in the household for what work do men use electricity for? (in Bangla)*

RESPONDENT Mainly light, fan and AC - these are mainly and for I don't- it may vary household to household. So you can make it 50% using iron but excluding light, fan, and AC and other the energy being used in the household, it is mainly activity of the women I think washing machine, cooking. These are the major energy sources being used in the household.

INTERVIEWER Okay. So, and within the household, also- okay, so the same question I want to ask you also at a community level. So for example, a Panchayat is planning an energy infrastructure. Who do you think that energy infrastructure mostly, what do you see? What kind of activities does the energy infrastructure get planned for - for example, a power connection, a major power, electrical, or mechanized infrastructure investment in a, in a Panchayat level or in a community level of any kind, what kind of functions would they be used for?

RESPONDENT They- at Panchayat level they are mainly office running- they are using the energy, for fan, light these are the main and at present, we have provided the internet access to the majority of the Panchayat Samiti and even up to the Panchayat offices. So, they are using this very minimum energy, they are in the internet connectivity, but in the office mainly illumination and fan, these are the-

INTERVIEWER What about public space lighting, like street lighting, etc? How much-

RESPONDENT It is- it is under the -it is under the Panchayat, but it is an issue because most of the Panchayat area local roads are not yet illuminated with the rural roads, this has to- this is- this is a growth place and it has to be taken care, it and it is being carried out from Panchayat or like Municipality, municipal area and for Panchayat for Panchayat area, it is the Panchayat area, but it is the - being in for road illumination, it is being used by the locality. And as you saw the percentage of men - women ratio almost equal. So, it can be segregated 50 - 50 men and women.

INTERVIEWER What I want to understand is that the priority is then first to elec- electrify the offices and …?

RESPONDENT It has been electrified, most of the Panchayats, all majority Panchayat =have been electrified, there is no issue - and as you told the streetlight this is an issue and major rural roads are not yet been covered. And this has to be created by the, erected by the Panchayat and we are providing only one point supply through meter, this part is the responsibility of the Panchayat, , starting from fixing of pole, lighting fittings and subsequent maintenance also, this is under the purview of Panchayat.

INTERVIEWER And what about the demand for community wells and hand pumps I mean all the water related activities?

RESPONDENT Actually madam - it is being taken care of by the public health engineering department of our state PHE, they get the electricity connection at their pump house and from pump house they normally - at the pump house they are providing a tank, main overhead tank, through tank, through pipeline and boosting- booster pumping they are supplying water supply to the locality, it is under the-

INTERVIEWER Even in villages, it's going to every household or do the women have to come?

RESPONDENT No, not at household, not at household- at the key local locations, they are provided, not yet reached at the - each household and the communities they have provided one point, from that point they are collecting their supply water.

INTERVIEWER So that’s like these *what we call time water tap (in Bangla).*

RESPONDENT *Yes, yes, yes, absolutely. (in Bangla)*

INTERVIEWER *So that* (in Bangla) time, time, timed water will come to that place and the women come to fill their buckets and- okay.

RESPONDENT Yes, yes.

INTERVIEWER So, but even like piped water in rural areas has not reached at household level.

RESPONDENT No no no, not yet reached at household level.

INTERVIEWER So, the -so, your power connection is going till the pump house?

RESPONDENT Pump house.

INTERVIEWER And it is under the PHE?

RESPONDENT Under PHE department.

INTERVIEWER Okay, thank you so much. So, within this kind of a energy narrative, do you like- within the household do you see - have you noticed personally any different- difference in energy access between various communities? Like, I don't know, social communities, tribal groups, tribal communities versus urban community.

RESPONDENT Community, community, to community need obviously changed at the urban community and at the rural community there should be a difference in energy uses. So but gender perspective, I think it is almost same because all at the users or beneficiaries?

INTERVIEWER Do you see a difference between say how much of energy access younger women have to older women - age wise any difference you've seen?

RESPONDENT Ah, certainly younger, if you consider the cooking- in a household if younger, if an older woman is there and younger woman should cook with that, it varies... it certainly it will vary with the younger woman automatically the say... using of hairdryer, it is... it is the need of the younger generation. It is there a good amount of energy consumption they are made from their hairdryer, but not so are by the older woman, this variation is there.

INTERVIEWER Within the economic spectrums, of course, the energy needs change right even in even within the urban structure within the economic sprec.. spectrum, the energy needs change. So, over there, do you see younger women (Bengali) *Say a new bride has come home*...so, then fridge or these kind of things will be more whereas the older women never used to use that (Bengali) *have you seen anything like that?*

RESPONDENT Certainly as a younger woman.. women they have the higher need of energy because they are at the modern age, they always try to tap the advantages of using energy as I told you, they are very fond of a using AC rather.. older women are not fond of AC in extreme cases, except extreme cases, but the younger women wants to have the AC environment, they want to have the hairdryer, they have to use the cold water which normally I see I saw that the older woman and have not habituated in this fashion..

INTERVIEWER like fridge fridge water..

RESPONDENT cooler, chilled water..

INTERVIEWER Yeah, and you're right like my mother doesn't use these even now. So, when you and I mean you are mostly involved with the power structure, so energy infrastructure, if I ask you - key energy infrastructure, it is mainly the power structure that you worked with.

RESPONDENT Certainly...

INTERVIEWER So, when new energy infrastructure and technologies are provided, in your view, is there a difference between men and women in terms of the benefits out of it?

RESPONDENT So, they are all a beneficiary. Practically they are the beneficiary of the energy sources whichever may be the sources, but in the beneficiary level, it will not change rather the younger generation will accept it more. And because it is very... they are they will become comfortable with those energy accessibility…

INTERVIEWER No.. what I mean is I'll just give you an example.... For example (Bengali) you were saying...you were talking about agriculture, right electrification of agricultural processes, right. *(Bengali)* And agriculture is mainly done by men or women?

RESPONDENT Mainly men... majority men, women are also in the village field, but mainly men...

INTERVIEWER Mostly farmers are men. So agriculture is a high sector priority for electrification right? Whereas ... what I understood is piped water to households is not as high a priority as agriculture.

RESPONDENT That .... that is that is a government perspectives. That is a separate department not in our..

INTERVIEWER I understand. I mean, I'm not saying you are taking the decision, I'm just talking about what I am observing, and I'm just asking your confirmation about that, because when we what we don't, what we are looking at then is that the priority for energy like number 1- 2 - 3, if I put it down as the government or as structure, that is where we are asking about the gender equity, that is it, focusing on women's needs equally as men's needs, because the collection of water from the communal water point is mostly done by women,

RESPONDENT Women...,

INTERVIEWER Whereas whereas agriculture is mostly done by men.

RESPONDENT Yes.

INTERVIEWER okay. street lighting benefits men and women, but it benefits women a lot in terms of safety, safety, right? But offices of panchayats are mostly manned by men. Isn't it? Yeah. So that's where I'm asking you that. Is there... then Don't you see that when planning is done if you set down a priority, there is actually a problem with equity.

RESPONDENT Actually madam..., what I feel, planning is being done according to need primary need our agricultural crop production is a prime issue for our state perspective, it is more prioritized than the water supply to each households, because water supply connection to a community key point can serve the purpose, but agricultural pumps set energisation will grow the agricultural products, agricultural produces etc will grow and it will grow the economy also overall economy also. So, it gets.. I as I feel that it gets more priority than household connectivity.. and there is an issue of investment also. For say... street lighting of an area state lighting payment of bill is an issue subsequent bill payment is an issue to the Panchayat and initial investment for erection of pole, lighting fittings and continuous maintenance, replacement etc is an issue of Panchayat. Panchayat budget will have to be prepared accordingly. So it is the government perspective it I think .. as I think that agriculture produce is a more prioritised than the household individual households pipeline connectivity because they are another issue. The... in urban area the population density is much much higher. Like our electricity perspective also it is true. In a urban area the consumer density is much higher than in the rural area. So there investment is too high. According to low consumer density you are to draw kilometers of pipeline to feed few households.. connectivity and for urban area just reverse scenario. This is an issue which has to be considered for budget allocation also.

INTERVIEWER Yeah, but even in Kolkata, I have seen these time *(Bengali) water taps*.. where women line up to take water right?

RESPONDENT Now in Kolkata majority area has been... except the slum area, majority area has been provided with the pipeline connectivity water supply at household level.

INTERVIEWER So, do you see men and women participate equally in decision making about energy access? Say in a household what kind of electrical appliance should be bought?

RESPONDENT Yes, yes I... I do feel that because of my personal experience, I also feel it because there is an economy portion also whether it will be economic or it will be helpful, really help this decision to women there, as I feel.

INTERVIEWER And you see women participate in that I mean you feel that it should be like that, but do you see women participate equally or are they allowed to participate equally?

RESPONDENT They in some cases they actually forces also. I am giving you an example from my personal experience. Earlier in my home there is a maid who washes the shirt pants etc. During lockdown ...she left... she couldn't reach at my home then my wife forces me... initially I continued that washing part. But later on my missus... my wife forced me to purchase a washing machine. Then I bought the washing machine. Practically they... in some cases they, the women, influence also the men gender... according to need.

INTERVIEWER Yeah, sure. And but who makes the decisions regarding the finances of this purchase?

RESPONDENT As you asked me for my opinion, I think the women gender’s decision is predominant in this respect for families...

INTERVIEWER Like for example, which washing machine to buy... a 15,000 rupee one or a 30,000 rupee one. So who makes that decision?

RESPONDENT Ah no... that that is joint decision that is joint decision, not because the technicalities and the utilities and the investment For.. in this perspective, it is a joint decision.

INTERVIEWER Okay, right. Thank you. And what about gender equity in energy access between urban and rural context? Do you see any difference over there? Like do women use less energy in rural areas than men?

RESPONDENT Certainly,

INTERVIEWER How?

RESPONDENT It is it is it is in rural area, because they are.. in extreme rural area we saw that the fridge may not be there. TV is there and they are using, but air conditioner g in urban area when the female gender is at their home, they use AC at urban area, but in the rural area, it is not necessary also and they are not using so, so much in like the urban area.

INTERVIEWER But do you see women use less energy than men in rural areas?

RESPONDENT No. That I cannot say because if your cooking is a media of energy that is being used and with the Ujjwala they have got the gas as there cooking medium, this is an energy and in that perspective, I do not feel so.

INTERVIEWER Have you worked on ground in rural areas also?

RESPONDENT Yes, majority of my service career was at the rural area.

INTERVIEWER Could you just elaborate on that a little bit? What what kind of projects and work have you done in rural areas?

RESPONDENT Actually rural area... power supply maintenance is an issue with that new augmentation of system at the rural area, rural electrification etc has been executed by me at the earlier age of my service. The local area electrification new transformer energization and new household electrification etc, works were supervised and participated in the program by myself.

Part 3

INTERVIEWER So to what extent does gender equity factor in your work in energy access? *(Bengali) you are mainly*, you're working a lot with energy access by providing... seeing that electrification reaches the remotest parts of West Bengal, but does gender equity factor at all in that work?

RESPONDENT Gender equity factor is there It has also been observed because whenever in your locality one transformer got damaged or bust out in my office, I saw that not only male people, the women also came to my office .. 'Sir..quickly, please restore'... it is observed. They are all they are the main sufferer... for the household ... non availability of electricity the women are always ... mainly 24 hours... all women's are not at work site, majority women are housewife. So they are the most sufferer I think. So, they also came to my office and requested. They are very much concerned with the energy and electricity.

INTERVIEWER So do you have any way that you actually plan within your projects to address the needs of women in electricity?

RESPONDENT Ma'am...Not at that focus actually. I... as I thought when our focus is to electrify household that has been achieved, quality we are.. is an issue, we are always focused on it and it is benefited both men and women and for industry, agricultural, this is another sector. GDP of the state is linked with this. So we had to focus on that perspective. Not gender based manner we are planning actually. It is automatically clubbed with our planning.

INTERVIEWEROk sure. So when so if we're looking at an electrification to a house say in a normal rural area, normal rural area, I'm not talking about Kolkata, where there is so much more electricity use, what ...what is the general consumption that you see at the household level in a rural area.

RESPONDENT Generally...

INTERVIEWER How many lights fans...

RESPONDENT 0.5 kilowatt... you can consider it 0,5 to 1 kilowatt...at an average...

INTERVIEWER What is it used for mainly?

RESPONDENT Mainly for light, fan and at this point of town most of the households provided one small tullu pump sets so that they can pump water and the TV and most of the rural area may also have the refrigerator.Iron is an apparatus they are being used at the household...

INTERVIEWER What about other kitchen appliances? Like for example, mixer grinder? Do you see any such uses?

RESPONDENT Ha... in rural not so ... rural not so...

INTERVIEWER So, so you're saying you don't really have specific processes which address gender it is more an overall connectivity you are looking at and quality of electricity... okay. So thinking beyond your work, do you think energy access policies should be gender sensitive?

RESPONDENT It is an… it is a factor that can be considered also it is a good eye opening issue it can be considered in the planning stage .

INTERVIEWER What what ways do you think it should be gender senstive?

RESPONDENT in for this? I think the gender wise the demand should be known first. What is the demand of them, as you told, the younger woman, older woman and similarly from the men perspective, we have to know the demand and how to satisfy their demand, then only I can plan. Otherwise, how can I plan without knowing the demand.

INTERVIEWER You just said right that most women actually spend 24x7 inside homes. Do you also see women doing work from home? Like small scale industries which need power?

RESPONDENT Ha... Weaving, stitching, etc. as they are... tailoring in which women are linked with working from home.

INTERVIEWER So does... does that connect back to your demand question? That maybe these areas need to be looked at a little more seriously that industry because you're talking about industry. But industry doesn't necessarily mean only industry outside home. Because a lot of small scale industries actually operate from within home, Right and employment for women.

RESPONDENT Certainly, Yes, yes. Yes.

INTERVIEWER Right. Yeah. Oh, so, do you think there are policy gaps around these identifying these needs?

RESPONDENT It is.... it is as I told you that it is an eye opening issue, you placed before me. I think the policy should take care of this issue also.

INTERVIEWER start identifying start understanding that there are these different things. So that is a gap that you see that is there. Yeah. Do you see related social policies which have an impact on energy equity, government social policies...

RESPONDENT Say street light, it is a social issue, very, very common and it is now being come into the picture also, because our government has come into the program (Bengali) 'Duare Shorkaar' - (Governance at the Doorstep). In that program, the inhabitants of various areas they have demanding for street light.. various areas, it is a big issue now. And it can be taken care of...

INTERVIEWER Imagining no policy or financial constraints within your work, how do you think you can achieve gender equity in energy access?

RESPONDENT No, as I told that gender... for gender equality, I am to understand how it can be equated then only I can focus on policy, to make policy accordingly. Actually, I didn't think in that fashion, that how gender are being balanced with our policy and what is the need from the gender point of view, how could I satisfy those genders. This has to be known first. Otherwise I cannot take policy as I think...

INTERVIEWER Yeah, so that's actually because, you know, I mean, I work in Kerala and Kerala actually has a very active gender policy to inform all their policies. So there are there are these identification markers because I was just before this, I was talking to XXXXX, and they were talking about how they have been identifying different markers for women's energy needs. Especially, like what I was talking about, you know, women's enterpreneurship from inside homes, where a lot of women work from home and, you know, that's also part of the economy, which doesn't get caught off simple thing like what you were talking about the pump, when I see it, I actually see women standing for hours at a pump, wasting time, when they can probably come and do some economic work.

RESPONDENT Yes, yes.

INTERVIEWER And all of those are also economic works, which adds to the GDP of the state and the country right? And so, what do you think in your current position, you can do to address the question of gender equity?... Within your work...

RESPONDENT I can I have to think on it, it is a it is an issue, I just realized it is an issue as you pointed out. I am to think and as I told that, how gender wise the demand or energy as such can be fulfilled, then I am to plan accordingly or propose accordingly.

Part 4

INTERVIEWER Thank you so much. So, how balanced is gender representation in the decision making bodies within this energy government governance structures you work in? Are there enough women in decision making positions? Of course, you are led by a very firebrand woman in our chief minister, but... beyond that?

RESPONDENT Yes...it is depending upon their representation in the in our board of directors, you can ... mean the board of directors the XXXX, as far as every guideline it has been decided, one woman director is mandatory. So, I think in this... not in this fashion, there should be women who will also participate out of own directors, there maybe two three directors from women on their capabilities, if they will come their participation will become more effective and ... and in mandatary manner it is not, I think not...

INTERVIEWER but, but at this point, it's only based on the XXXX guidelines, I mean, otherwise, it is mainly men...

RESPONDENT Yes Yes yes... and I had in our organization, we had one director about five, six years back, she was inducted in the Co. as an engineer and finally joined as director and then she returned in this fashion whenever the lady director will come in to a board of directors then their participation will be in the system. Otherwise, the board of directors are the decision maker in our company or in any company. So, their participation in gender, how it is being meant, that is also an issue.

INTERVIEWER Also, do you see finance processes for energy, gender sensitive?

RESPONDENT Our finance minister is an woman , woman finance minister in the country, so I do not I should not feel that the it is one finance minister or our Chief Minister is an women... so it is a gender sensitive. It isn't the thinking process and manage over a whole perspective is an issue and who are being manned in the process that is also an issue. Thinking process is an issue I think.

INTERVIEWER Actually, when we talk about finance processes, this is something which from the gender background, it's talked a lot because women find it very difficult to access loans. Because women own less assets. Because *(bengali) loans need collatorals.. gurantees have to be given...* women don't have so especially like when a woman wants to start a business. Okay, she wants to set up she needs a power... energy structure. Which would run say 20 Taylor tailoring machines on an on electricity, she'd often cannot get loan ... so easily. So, that is one of the things why we want to find out whether... within the energy sector finance processes... are they thinking of women and how women can access funding, women can access finances for their energy needs.

RESPONDENT Yes, this is madam, this is actually a government issue, I think it should be, as you told, the small scale industries being owned and run by the women very well in some cases... in our customer level, we have also seen. But how they get their loan or assistance, this is a government policy linked issue I think there should be a leverage also so that they can get advantage from these perspectives, because, as I learnt and as I saw that, in our management study, our professor told me that your mother or your wife is is a great accounting person. She manage finance in your home very, very well. And accordingly you were to... that replica can be placed in organization also. Actually, in finance process female gender are very effective as their day to day activities with the finance process, no? When men earn say.. let us say 10,000 rupees in a month, the woman has to plan accordingly how they will run his family with that.... So, it is effectively there should be an advantageous clause for the women getting loan also certainly...

INTERVIEWER What do you think are the key challenges for gender equity in terms of renewable energy access?

RESPONDENT Gender equity in renewable energy access?

INTERVIEWER Yeah.

RESPONDENT Renewable Energy Access actually, is a costly investment say for any household, their rooftop or any places he can install, but it's maintenance and its investment is an issue. Government support should be there and if it is being supported from the government level, so that initial investment of the household owner can manage , then they can put their lighting purpose or in case of any breakdown, they can use it ..we...earlier actually earlier here ...we used to use our inverter etc. But it is not in our state at all, because we have providing 24x7 power supply and when they are getting grid power supply in 24 x 7 manner, then renewable is an issue here. We are also working with TERI... with TERI we made a project whether XXXXX and TERI is working on it not yet completed the study, they are on the job with us. XXXX. But renewable energy is a costly affair it is as yet our power portfolio mandate on renewable energy. The costing of renewable energy is not yet economic also. Rather we are getting power from thermal power plant at 4 or 4.5 rupees and it is becoming double almost with renewable energy source of supply.

Part 5: Concluding

INTERVIEWER Is there anything you think we have not discussed on this topic which you would like to add?

RESPONDENT It is up to you if this topic was presented from... hosted from your end. But one point as you put in my mind that gender equality. Actually we didn't thought in that manner on energy as such, with gender equality, it is a new issue and I shall try to incorporate in my thinking process. This is a good idea you have taken..

INTERVIEWER If there are any follow up questions, can I email them to you?

RESPONDENT Certainly, Certainly, certainly.

INTERVIEWER Thank you so much.

RESPONDENT Call me, mail me, no issue.

INTERVIEWER Thank you so much. Is there anyone else you think I should talk within your structure or outside like if anybody's working also with Rural Energy or renewable energy? Or NGOs operating in different energy sectors? Anybody else..you can refer to me...

RESPONDENT I can I can I can refer you. I can I am to think and... your are with the touch XXXX, you want to get from our state?

INTERVIEWER Yeah, would be good to get a little bit understanding of energy needs from West bengal. So if you can also email them to me...

RESPONDENT I have to think of, and I will mail you.

INTERVIEWER So, thank you so much. Thank you for this. It was very, very interesting, the discussion, and I hope that I've put a little germ inside you.

RESPONDENT I do agree with that. Gender Equality...

INTERVIEWER And then I'm happy to have any conversation with you on this because we are like, there are several factors of energy equity, which quite seriously disempowers women and this is something which... that's the purpose of this research...

RESPONDENT Certainly, it will also grow the economy also it will play positive role in GDP also, play a good role in the GDP also certainly... their.. their idle time if we utilize in an effective manner that will become... they will be engaged with jobs and they will be in the part of GDP growth which is so good.

INTERVIEWER Yeah, absolutely. Absolutely. Thank you so much, and have a very good evening and good end to the Republic Day. Thank you so much.

RESPONDENT Thank you. Thank you.