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| **Interviewer name** | INTERVIEWER |
| **Sub-contractor organisation** | XXXX |
| **Interview date** | XXXX |
| **Duration of interview audio recording** | 1 hour 43 minutes 57 seconds |
| **Face-to-face or virtual interview** | Virtual |
| **Interview participant** |
| **Code** | I18 |
| **Participant name** | RESPONDENT |
| **Organisation name** | **XXXX** |
| **Gender** | Male |
| **Stakeholder category** | Architect, green building consultant and NGO founder working on traditional systems of resource management research and community involvement |
| **Country** | India |

**Introduction**

**INTERVIEWER** 00:07

Yeah, shall we start? So good afternoon XXXX. We are very happy that you have been able to take out time from your very busy schedule and participating in a study that aims to obtain a better understanding of energy access and gender equity.

**Consent**

Okay, so before I start, I would like to check that you have completed and returned the consent form and restate some points from that.

**RESPONDENT** 00:34

Yes, I have completed and returned the consent form. Yes.

**INTERVIEWER** 00:39

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 within energy access. Is it okay, if we record the interview for you for our documentation purposes?

**RESPONDENT** 00:53

Yes.

**INTERVIEWER** 00:55

The recorded interview will be transcribed for analysis and a copy of the transcript to be shared with you 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 be used anywhere in reports and other publications emerging from this study. And the interview will take more or less one hour. Is that all okay with you? Yes. So can we start?

**RESPONDENT** 01:23

Yes, yes.

**Part 1:**

**INTERVIEWER** 01:24

So if you can briefly tell me a bit about your current role, position, the work that you do and the organization that you work for?

**RESPONDENT** 01:35

Okay, so I work in two roles. One is as an XXXX or XXXXX

**INTERVIEWER** 02:53

And what do you teach in XXXX (XXXX)?

**RESPONDENT** 02:56

Again, everything to do with sustainability. XXXX.

**INTERVIEWER** 03:25

Okay, and can you also tell me like, how long have you been involved with the energy issues? And what specific energy related programs are you associated with?

**RESPONDENT** 03:36

Yes, it's been for the past XXXX years. Now, this is the XXXX

**INTERVIEWER** 05:12

And to what extent does access to energy feature in your work?

**RESPONDENT** 05:20

So, most of our work, if I was to look at the buildings that have focused that I've worked on, it's fairly top down. So access to energies are given. The working, XXXX is more grassroot based, more village or tribe oriented. So the challenge of energy access is more over there. With us, it's more like you know how much energy can be saved. So let's say if we were a conventional building, we would be consuming 300 units per square meter per year. But because you're going green, we can reduce it from 300 to 150, or 90, or even as low as 14. But the background, like I said, is that it is given that we have access to energy. So my, my work in the consultancies is almost entirely focused on that.

**INTERVIEWER** 06:15

So if you could tell us a little bit more about your work with XXXX, which focuses more on access issues?

**RESPONDENT** 06:23

Yeah, so I wouldn't say it's entirely on access issues. And I'll explain why? We look at even the way I train the students at the XXXX, I tell them that look, there's two aspects to energy. There is something called xxxx xxxx, then I automatically have a very low dependency on active energy systems, thereby automatically bringing me into a domain where I can easily transition to what is known as these days net zero energy building. So even if I don't have ready access to grid power, I can actually go for off grid power and use solar power use small scale wind and these alternative systems. So even the work that we do in the villages is is kind of amalgamating these two aspects. So not just focusing on energy access, but looking at how can I first optimize my demand for energy and then look at access through mostly through renewable means, and not so much through grid access.

**INTERVIEWER** 07:44

Right. But that is taking you to community communities, which struggle to have access to energies at a very basic level, right?

**RESPONDENT** 07:55

Yes, and No. Yes, in the sense that daily power is under question. So if I look at the rural areas in Uttar Pradesh, or parts of Bihar, parts of Madhya Pradesh, even then I know that we've seen places where throughout the day, the houses will not have electricity. But given that we know that the energy sector is structured in a manner where industry and commercial players cross subsidize domestic and agriculture, for the basic aspects, like for example, pumping energy, the farmers and the agricultural areas will receive pretty much uninterrupted power supply. So so maybe they may not have light enough to be able to go to school if they are enrolled into a, you know, evening or adult education program. But at the same time, their ability to carry forward that basic professional requirements happens, right. And, of course, solar power now has penetrated fairly deep and has been around for a fairly long time. To the extent where some of the villages where we are working, people hav...e they've assembled their own one and a half kilowatt or two kilowatt home solar power systems, and they charge a battery with it. And that's enough to cater to their basic electricity requirements. So that's that's pretty much the exposure that I have had so far. So I wouldn't say that there is any blanket statement that would, you know, kind of put some people in a very poor energy access position, even deep in the mountains. That's not been the case, in the upper reaches of Uttarakhand. Yeah, so this has been my experience here.

**INTERVIEWER** 09:37

Okay, so have you noticed any kind of differential access? I mean, even within the same areas, are there people who have more ownership of power or ownership of energy than some other groups?

**RESPONDENT** 09:52

Yes, absolutely. There's no doubt about that. That's the sad part. I feel that 70% or at least 68 percent statistically, as per World Bank statistics 63.5% of India is in rural areas. And like I said rural areas will have access to electricity in the manner that I just explained,(hindi) for pumping they will have energy. But for daily use, they may not even through the day, in the summers not be able to live or sit inside their houses, because they've gone ahead and, you know, as an architect, I can share this with you that they've gone ahead and abandoned their very beautiful traditional houses, and they've built these concrete, concrete monstrosities that actually have a higher energy demand. But because they don't have steady state power supply, they can't live in those houses because they're too hot in the summers, or too cold in the winters. So in Punjab, we've seen villages where people have these beautiful houses, very nice, brightly painted, but they're sitting outside on charpais (cots) under a tree. And there is definitely preferential access in cities. So for example, just within the city of Delhi, where I reside, I know that I'm in South Delhi, we're a very privileged lot we hardly experience any power failures. A lot of this has to do with you know, the government managing power better and also after the unbundling of the power sector courtesy the Electricity Act. Since the power, since the privatization of power has happened in the big cities at least predominantly, we don't experience so many power failures, but within Delhi, I know that there are pockets in the outer fringes of Delhi, that will be the first people to experience power outages, there will be loadshedding that happens for eight hours or 10 hours or even 12 hours to a stretch within parts of Delhi itself. Whereas we as the South Delhi lot or maybe the North Delhi lot, the older parts of the cities have uninterrupted power supply.

**INTERVIEWER** 11:45

So what if you could explain who are the people are which are these areas which would be on lower rung of access within Delhi? Like the groups that we're talking about? Are they the same with demography? People? Are they... what, what kind of people?

**RESPONDENT** 12:02

Should I just give you whatever, from the horse's mouth?

**INTERVIEWER** 12:06

Yeah. Please...

**RESPONDENT** 12:07

Okay, so...I've had discussions with, with the power distribution companies in Delhi, and they said, See, it's very simple. So the gentleman was giving me... he first asked me xxxxxx. And he said that it's very simple economics, it's our chances of recovering our bills. If I give you an electricity bill, regardless of what you are consuming, my chances of being able to recover that money from you is the highest in South Extension. Second in sort of defaulting and all is second in Sevanagar and the maximum defaults would happen in the places which is the highest density of population, but also the maximum defaults. So they said that it's it's, it's, honestly, this is one person's opinion that I'm telling you, but fairly senior in the district distribution company. So he said, that's how it's structured. And that's how it's structured throughout Delhi. So we make sure that your power doesn't get failed, because you will also contribute the maximum to the GDP, which fundamentally as we know, from a sustainability perspective, is a flawed way of looking at development. But as of now, we are very, very inextricably a part of that system. So that's, that's how it's structured.

**INTERVIEWER** 13:51

So, all these DisComs they basically operate on that profitability margin...

**RESPONDENT** 13:57

Well, I think, they have to, they have to, because if I was to look at it from a private sector perspective, than the kind of infrastructure, to maintain the kind of manpower I need to deploy just to make sure that there is no theft. See, you may be aware that if I look at, you know, why did the Electricity Act come into the picture, why did the Energy Conservation Act come into the picture, we are talking about 40% ATMC losses, which are the highest in the world, amongst the highest in the world, right? Now, ATMC also includes theft, though they say Aggregate Technical and Commercial losses, Commercial losses is billing, but technical losses is to do with leakages...is to do with theft. So, I understand, you know, when my relatives would tell me that they live in Calcutta and they haven't experienced a power outage in so long because Tata power whoever has been managing it very well. It is because they run a tight ship, it is because they do not allow theft. It is because the corruption levels are kept really low, and therefore, it has to have a direct link to profitability and economics. And making sure that all that is also done on time and the system is maintained. The transformers are replaced on time, you know, so operation and maintenance protocols are in place, there's no compromise there. So I'm guessing Yeah. Yeah, I think there's so I must explain, explain myself in the sense that I run a company and an NGO. So I know what it takes to run the company and to kind of keep things online. And it does take a lot. So I can understand where they're coming from. I don't I'm not saying it's fair. But I can understand where it's going. Yeah.

**INTERVIEWER** 15:37

Right. So within the policy context, shaping your work. Do you have any comments on current issues or developments of policies at the state, state or national level, which influence your work, or any policy challenges that you face within your work?

**RESPONDENT** 15:58

Policy challenges? Not really, I mean, if I was to just put this one very influential document that has inspired me for life, and that was the national... the Integrated Energy Policy, there was a very exhaustive document developed by the Planning Commission, way back in 2006. But I feel that if I was to look at sustainability... now, you know, the beauty of the Sustainable Development Goals, and many people tend to miss this is that there are 17 interrelated, interdependent goals. Now, a lot of times people will look at one goal and say, we work on one goal, that's not possible. Right? Now, if we want to .... if we were to set out to achieve the Sustainable Development Goals, we need to apply and implement the Integrated Energy Policy, which was bold enough to make statements like you should dissolve all the multitude of ministries that are related to energy, coal is separate, gas, natural gas is separate. Petroleum is separate, building are separate, renewable energy separate.... all these need to come under the aegis of the Bureau of Energy Efficiency. And unless that centralization and the singularity doesn't happen, then the you know, there's just too many grey areas and loopholes in between. So if I was to look at the policy narrative at the national level, then this is the one thing that I would say, can make a huge difference to the country, and to the what we call energy intensity, consumption of energy per unit GDP growth, right. And that that report was very explicit in explaining how, if we bring down our energy intensity, it, it benefits the GDP directly. Right? It is also correlated to sustainability. Because the lesser we consume, and the more we're able to generate economic value, the less energy we consume, the more we are able to generate economic value, the better it is for the country, and also at the carbon emissions level. This does not directly impact my work, but it is something that is a point of concern. And I feel that if that is in place, then whatever we are doing will just get multiplied, multiplied 100 fold or maybe 1000 fold. So, yeah, that's, that's what my...

**INTERVIEWER** 18:08

I have a follow up with the one question about this, that actually in India, we have these pockets of high energy consumption, basically, the cities and where it is more than consumption, it even goes into abuse, right. And I understand that most of us as architects, we are trained to then work in trying to reduce that, mitigate that consumption and try to bring it down like... the building if at all. Yes, but there are much larger pockets of this country, where people are operating without the basic energy as required for a sustainably independent life.

**RESPONDENT** 18:56

For sure.

**INTERVIEWER** 18:56

Okay. And if you go go to like, because we were talking about the Sustainable Development Goals, the SDG7 is one of those where the connection to equitable energy access and Human Development, right for self development, all right, for fulfilling a person's true potential are kind of connected as as as a matter of rights, you know, the equitable energy access is considered to be a matter matter of right, of every human beings. So from that angle, what does equitable energy access really mean to you?

**RESPONDENT** 19:34

So, I mean, I'm going to outright defer with what you said because I do have a very, very close connection with education for sustainable development. And I must tell you that if you look at the global energy flow Sankey diagram, and you will understand that the energy generation efficiency of the whole world, the average energy generation efficiency is 38%. If you look at the global Sankey diagram for the whole world, then our global energy conversion efficiency is 11.4%. That means 88.42% of the fuel that we consume, that gets converted into CO2, SOX, NOx and heat and other gases. Alright. So I disagree with this point that we are trying to link human development with energy. I think there's a there's a nexus of energy industry to a great extent behind this. Because if you study the maths, if you just if you study the physics, if you look at the entire energy generation industry, which I work in, right, it's not possible. I think that this needs to be decoupled. And this is a very important aspect, because in the US, about 15 years back, they tried to work on decoupling, and I'll explain what decoupling means in that context. They tried to decouple sale of electricity, with profits in the energy DISCOMS, the distribution agencies, right, unbundling is happened over there, also, right? So So what they were trying to say is that, look, if you want to reduce carbon emissions, and we want to reverse climate change, or we want to mitigate climate change, right, or we want to be resilient in the future, we need to somehow disconnect these two, because today how a company makes money is by selling more power. Okay. Now, if the profit of the company is based on selling more power, then then there's no way that I can mitigate CO2 emissions because my primary mainstay of generating electricity is still thermal power, right. And the Integrated Energy Policy was very, very methodical in explaining this, clearly, that even if you go towards renewable energy, 80% of the national energy consumption is still going to come from conventional sources of energy. Right, which is where this whole angle of clean coal and and clean tech and all came into the picture. I still feel that those are semantic misnomers. There's no such thing as clean coal. There's there's coal that has lesser wastage in terms of that conversion value that I gave you. And this is research by Cambridge. You can also Google the World Sankey diagram, which is the integrated the International Energy Agency IEA runs a website called Global Energy Sankey diagrams. So if you go there as well, you will see that the carbon implications and the climate change implications of the energy sector are huge. And us trying to make sure that everybody gets addicted. And believe me, I mean, I think that electricity is an addiction, it's something that you can't do without, right. And given the conversion ratios that we are talking, about the average conversion ratio of Indian for an Indian thermal power plant is 34%. As per the Center for Science and Environment, that means 66% of my investment is going up in smoke, literally. Right. And no solar power is not a solution, because solar power manufacturing relies on grid power. It's I mean, there's the research is all in the open public domain. It's published, right, right. So So, so one of the things that we are trying to highlight at a village level is to have people understand that there is a value to our culture, there is a value to hand looms, and not switching to power looms, because the government is giving it to you at a subsidy and it and you can start competing with industry. No, I don't think a hand loom can compete with industry at all. I think the game is in marketing. The game is in what Louis Vitton does, which is to tell people that oh, you know, this is hand produced, and it's one of a kind, so I'm going to price it at half a million dollars. And I think that's, that brings up the game of of positioning and branding and marketing. And I think that needs to happen at the national level as a matter of policy. And not so much by you know, saying that, Oh, you know what, you don't have access to energy, so you're poor. No, I don't think it's that simplistic. That's a very reductionist kind of approach. Of course, obviously, this is my opinion. It is based on a lot of facts, which is very corroboratable. It's all in the public domain. But yeah, but but I feel very strongly about this.

**Part 2:**

**INTERVIEWER** 24:33

I understand what you're talking about. I understand where you're coming from when you say electricity is an addiction, but we are not necessarily talking about people who have electricity on a tap. We also are talking about people having major development drawbacks, because they do not have, say access to even one light bulb at night to be able to do their studies. Right. And we do have a large populations who are still trapped within that kind of, you know, paradigm. So it's more coming from that, because when you're talking about, I totally get your point of power loom versus handloom and all. But then we also have this whole issue of, you know, how women continuously have to... don't have access to energy. And as a result of that, they end up having to do a lot of things manually, okay, around the house, say, for domestic chores which is a lot of labor and a lot of drudgery, right? So from I mean, my question of energy equity comes from really the very basic level, I'm not talking about it from the point of view of people like us who have it all, and who probably can do a whole lot better if we reduce our addiction to any forms of power, but more in terms of people who, and it's again, it is not about, it's not dirty fuel, clean fuel, or any of these and what you're talking about, about the loss and all that all of that is taken, but within this also there is I mean, what do you think like, for example, if I asked you, what does gender equity in energy access mean to you?

**RESPONDENT** 26:25

See, I don't I mean, I don't think that....

**INTERVIEWER** 26:31

Simply XXXX .... the dishes don't get washed by themselves, the clothes don't get washed by themselves, right. And women spend hours of their life, days of their life doing these kinds of things, isn't it?

**RESPONDENT** 26:45

Yeah. So see, I don't know, see, this might be countered to a lot of what we've experienced or heard, because I feel that to a great extent, we get motivated by a lot of literature that's out there in the public domain, which is not corroboratable. Well. So for a very simple example, recently, we traveled to a village in Jharkhand. And the idea was to go and try and see how the communities over there live. And my XXXX went and started speaking to the ladies saying that, okay, let's get it from the horse's mouth, so to speak. And the question was that, well, you know, how burdened are you with housework? And their reply was very immediate. Saying, as burdened as the man. So XXXX, my XXXX was expecting something else, she was expecting a different answer. So she said that no, don't you end up doing a lot of work in terms of washing utensils in terms of taking care of the kids? They said, the and the answer was very, you know, it didn't take them time to think to answer like, I know, when a person is processing the answer, right? And she probably said, No, not at all. They help with cutting the vegetables, they help with us cooking as much as we help with the farm work. So we get done here. And they do that. That's what they do best. This is what we do. And there's no conflict in terms of that. Oh, I want to do that. Now. I think that exposure and comparison is something that's that's different. That's that's, and I still, so I wanted to share this anecdotally. Because I still understand what you're saying in terms of the basic energy access. And the thing that came to my mind instantaneously, was a conversation from XXXX in the year 2009, when they were launching the when XXXX was launching the 'lighting a billion lives' campaign. So you might have heard of that campaign, the intention was to find solutions to issues of households not having basic energy access, getting solar lanterns, which can then they try to develop an economic model around it that there'll be one person in the hamlet, they were trying, they were dealing with families that don't have any grid extension. You know, there could be one person who sets up a charging station and he can charge 50 paisa or one rupee per day per lantern, for charging. And in the morning, when people go to the village, to the farms, they can leave the lantern there. And they can come back and collect it in the evening. It had a torch in it, it had a cell phone charging point in it, and it had bright enough illuminance that could allow people to sit around it and kind of read and write. That was the intention. So I think these kinds of programs have been around. They've been facilitated by the government and enhanced by the industry. There were people who would XXXX say, Okay, I'm going to I'll fund for 10,000 villages I'll fund for 1000 villages, Akshay Kumar, Priyanka Chopra, you know, they bought Bollywood in. So I think that has been happening for a long enough time. And this, I'm not too sure if the challenge can be so simply just tied to be basic energy missing. Because it just so happens that if you look at Rajasthan, you look at the remote villages in Rajasthan. It just turns out that all the school toppers come from the villages that don't have electricity. Or have very scant electricity or they have, like I said, very extended power cuts. So, again, I don't know if I can make that direct connection and say that Oh, but they might just do really well. If all the houses do have access to electricity, and and it's the ladies are left free, then they might have... again, I'm kind of pigeon holing them if I say that, they will be left free, and they can then teach the kids better, and the kids can do better. So I think these are slightly simplistic.

**INTERVIEWER** 30:29

XXXX there are, there are actually a lot of research on how electricity connection has impacted directly women's education....

**RESPONDENT** 30:43

Yes, yes, I'm aware of that. And, and I, and I'm and I, and I'm quite aware of the fact that a lot of this research has not been done by sociologists and anthropologists, just like a lot of research in architecture, which says wood is a sustainable maTeril has not been done by scientists and foresters at all, most of those reports had been written by economists. So so I kind of, you see XXXX was a very powerful learning experience, because I had access to foresters, if I had a doubt about wood, I would go and directly speak to a forester. If I had a doubt about issues to do with society, or gender equity, I would go and speak to a sociologist. And I would get their perspective. And I would find out that a lot of what we are talking about are being driven by the energy sector, are being driven by companies that have vested interests. And it's not as if development is not possible without... it's just that this linkage is trying to be made in a manner that may not be you know, so directly dependent. So, I mean, again, obviously, these are these are not, this is not perhaps the answers that you were expecting, but I must tell you that this side also exists.

**INTERVIEWER** 31:57

Right. I mean, you are absolutely. I mean, I'm open to whatever you're saying. Now. So within your work, is there any energy mapping that you do?

**RESPONDENT** 32:11

Is there any energy mapping that we do? So again....

**INTERVIEWER** 32:15

Eneregy demands, consumption and supply?

**RESPONDENT** 32:19

No, we've been I've been part of two energy mapping exercises, when we were doing something called the XXXX. When we commissioned very large scale studies, of the one that I was directly involved in was XXXX. And to some extent, XXXX, the XXXX had a scheme where they wanted to announce these cities as solar cities. So there was a massive city wide sample, obviously, sample surveys, but we were talking about XXXX households across different socio economic sector strata. So that was the energy mapping exercise that we did. What that resulted in was trying was basically trying to analyze if we can switch to renewables, and how much can we switch to renewables, what is the EPI or the energy consumption per square meter per year for different categories of households and different economic strategy? Now, I feel that a lot of that information is in the public domain. So we do end up like recently, I was part of a study that was being led by the University College London, it was a PhD researcher who was doing a study on energy consumption in Sawra Ghera which is a slum resettlement colony, in a part of Delhi. And over there, the correlation there, it made a lot of sense, what you're talking about in terms of energy access, made a lot of sense, because what she was trying to map was the connection between thermal comfort and requirement for energy, because they tend to use maTerils like brick, which is not a very insulating maTeril in this in the summer of Delhi, it can like... temperatures inside buildings can shoot through the roof. And it's really important in that case, to be geared up passively or have access to electricity. So there, it becomes an issue of survival, literally, because the heat wave is so strong and so high. And the impact on human health, especially children's health is so high. Very, very, very, very particular to the high density, low income colonies of Delhi. So I think energy mapping from that perspective, yes, I totally understand the application from that. From a heat stress index angle, it can have massive repercussions. But otherwise, yeah, I can find arguments in favor and against almost...

**INTERVIEWER** 34:39

in the energy mapping that you were talking about. Yeah did you do any of these diversity mapping? Like did you... were you... did you do some desegregate segregation of your, of the data in terms of you know, who's using more energy, less energy how much...

**RESPONDENT** 35:00

Yes. As a part as a part of the teri's mission study, yes. But as a part of the XXXX study... Not really.

**INTERVIEWER** 35:08

What was the criTeri for the Teri if you remember?

**RESPONDENT** 35:12

Terie, Income per annum, income per month per annum size of residences location... Yeah, this is broadly what I remember.

**INTERVIEWER** 35:29

Was gender or criTeri at all.

**RESPONDENT** 35:32

No, gender was not a criTeri at all. Okay. It wasn't it was just household based per household. Yeah, gender wasn't.

**INTERVIEWER** 35:41

So even the access within the household in terms of any diversity was not part of the study.

**RESPONDENT** 35:52

No, yeah. No, not at all, though. I think the study from XXXX was generally more equitable. From the perspective of, if girl children, how many go to school? How many are educated? Does the does the both of them have a job? The husband and the XXXX? You know, are they both working? So I think that aspect was better was more equitable in, in this place in because these are questions that were asked like, Is everybody working or not? What's the source of income? You know? Yeah. But I think that might just be cultural ... I am not to sure about that..., we didn't go into the details of that, the mandate wasn't that at that time.

**INTERVIEWER** 36:39

Oh, have you observed any form of inequity in energy access within a household?

**RESPONDENT** 36:51

So it so it really depends on how we're looking at it in the sense that if I look at it from the perspective of food processors, say, for example, right, that could make life easier, quote, unquote, then a lot of the villages that we've gone to, and worked in, they have their own household based atta chakkis (wheat grinders), the small ones that are electrically powered, they do have their own mixer grinders, they do have their own stuff that will make their life relatively easy. They have very, very strict, you know, times of day, when they know that they can use it. So they pretty much do their job during that time. But I do know, so far, the villages that we've worked in... a lot of the job community areas and all the women are very empowered, like, they'll do the household work, and then they'll go to the farms, they'll be working on the farms with the, with the men, you know, so even in Uttarakhand... And again, we observed the same thing. So So I don't know if there is inequality to the extent which leads to, you know, some serious backlash on physical, psychological health, you know, or oppression, if I could use that word or something of that sort of, not not that we observed so far. And and the chart communities are very proud about this, you know, that they give a lot of they give equal rights to the woman, the Punjabi communities, I would say are actually lesser, it's in their religion. But no, they they are more strict about the women sticking to their households. Yeah, but no, I think these two things are very, very closely connected, the smaller the smaller house.

**INTERVIEWER** 38:47

Yeah, okay, go on...on, go ahead.

**RESPONDENT** 38:49

The smaller the house, the smaller house, the model number of members in the household, the less the land holding. So all these things are connected. If I have small land holdings, if I have a big family and I have a small house, then I will see that a lot of the burden falls on the woman to manage things, even if the kids are getting educated. And they go to school, but then when they come back, we'll have to support in either the cooking or the washing or something of that sort. And life gets challenging. Whereas if it's a small family, big house big landholding, and by big I mean, like, (hindi) 2 bighas, 4 bighas also is fairly large, then that degree of inequality becomes less. So I feel that these are like the external the the other links that one needs to look at, in its entirety, to see where exactly is the problem happening and how. Yeah, yeah.

**INTERVIEWER** 39:51

And in these families, what kind of cooking fuel was they using?

**RESPONDENT** 39:57

Mix of LPG with cow dung. Okay, so there are some things. So so it's very interesting. It's like when you're speaking to the village elders, then they have these very simple idioms like like for example in in Uttar Pradesh, they'll tell us a (hindi) from the time gas came, we are getting gas.... You know, and a lot of these people swear by slow cooking on a (hindi) dung cake chullah saying that if we let the if we don't speed it up by using LPG, and we let it cook slowly, then the ability for the body to digest it and the overall our, our feeling of good health is better. So it's very interesting that they always have both these, they'll have the LPG connection, and they'll have the chullah they will, they'll make the rotis and daal (pulses) and stuff like that. Plus, one more thing that I must point out is that in the villages that we've traveled to, they don't have this, you know, our thing in the city of (hindi) We have to eat now and hot and fresh... they don't have these kinds of hangups, they'll eat twice a day, they're there daal will sit on the chullah the whole day and keep cooking, whoever comes can pour it for themselves and eat. So, even their lifestyle and and their the way they do things on a daily basis is very different from us. So the requirement of energy ergo resultantly is is also very different. Yeah.

**INTERVIEWER** 41:24

And how do you see gender affect the way energy is used within households? You see, men and women use different energy differently within a household?

**RESPONDENT** 41:43

Hi, yes. So again, like that, so another place that we traveled to in Punjab, they told us that when television came into the village, the neighbors stopped talking to neighbors and when the cell phone came to the village, then father stop talking to son. So that is definitely the case. The women I think, in my experience are definitely the more responsible bunch. The men will tend to the farm but once they come back then they might be on their cell phones. And and so the energy access would be like, restricted to maybe entertainment but entertainment again, because again, in the villages we don't experience you know, a drawing room and and a living room and kind of bedrooms separately, like people tend to have one television everybody piles into that same room to watch what they're watching. But But yeah, in terms of cell phone, and in terms of post farm work, kind of chilling and wiling away time, tends to be more of the male thing. And the women I would say that they also do that but not as, as publicly as men do in religious, they will also go to a neighbor's house and start chatting and sitting and relaxing. They did get that time but men would do it (hindi) cot or sitting on a chair, under the tree and kind of...

**INTERVIEWER** 43:01

Yeah, what are the women use energy for?

**RESPONDENT** 43:05

Other than other than the, the other than the household work? I think in both cases, it's entertainment. So I've seen I've seen....

**INTERVIEWER** 43:15

Women women use energy for household work?

**RESPONDENT** 43:19

Yes, yes. Now you will see the domain will manage your domain will manage the energy consumption on the farm. So they'll be very particular about managing the pump sets making sure that the transformer is in place making sure that the body where the water is pulled out, is maintained impeccably, whereas the women will make sure that that is done in in the house....

**INTERVIEWER** 43:38

Like what can you explain?

**RESPONDENT** 43:40

Yeah, like I said the atta chakki, the mixer grinder, the gas the the work that's required for cooking stuff like that.

**INTERVIEWER** 43:48

Yeah. Okay, was there water connection to the homes lifting system?

**RESPONDENT** 43:54

All of them... pumps piped connection.

**INTERVIEWER** 43:58

Where are these Can you just give me like an approximate location?

**RESPONDENT** 44:02

Uttar Pradesh would be in the Meerut and Gaziabad and Motinagar areas, so villages surrounding these areas. Rajasthan would be in mostly in the Churu district and the villages that surround those areas, though we did come across hamlets over there that had no connection to piped water. And these were deep desert tribal communities, nomadic in nature, mostly because they didn't stay in a single place. They didn't have fixed connections. Then in the Jhalawar region in Rajasthan, again we have come across what are called denotified tribes. They were denotified by the British for some strange reason they are still denotified, they don't have access to electricity and water... piped water. But Uttrakhand recently was Dhana chili and that area around Dhanachili the villages there again, water was available, so so so what is interesting is that in the mountains, they don't rely on piped water, in the sense of coming from a pump house. They rely on pipe water through quasi traditional systems, like for example, they have a natural spring of water somewhere higher up in the mountains, they lay their pipes, normal PVC pipes going all the way, tapping into that water source. And I've seen the same thing done in Sikkim as well. In fact, in Sikkim, I've seen the same thing done in main Gangtok, where they will tap into that water source. That will get piped down to the

**INTERVIEWER** 45:26

So all like gravity flow kind of thing?

**RESPONDENT** 45:28

it's all gravity flow, and then it will get replicated to each household. So these guys in Rockland manage their water themselves, it's not supplied by the government. But rest of the places yeah, in fact, I think that was one of the main pain points, because now in the work that we're doing, for example, a very dear friend of ours, Asim Waqif, had gone and done a deep study of Bundi and the bauris (stepped wells) of Bundi and they were an absolute abject disrepair....

**INTERVIEWER** 45:58

Yeah yeah... the bauris are drying out...

**RESPONDENT** 46:00

in fact we've seen towns, which are very less known have very, very rich body cultures, but again, because of pipe water, they're used as garbage dumps, and now they are contaminating the aquifer even further. So, again, you know, then then becomes the idea of course, basically...

**INTERVIEWER** 46:20

The traditional water systems are kind of getting neglected, they are not getting recharged, they are not because of this whole connectivity to water grid system, is that what you are saying?

**RESPONDENT** 46:32

Yes, and no. So there's, there's a sociological aspect. And there's an energy aspect, the energy aspect was introduced, to a great extent by the British. So 1875, if you've read the, you know, the, let's say, the Gazetteer of the Bombay Residency communique you find that was the time that the British started. It's a very interesting word, they say, the water is not suitable for consumption. Now, they didn't specify As for what standard, right? And so they say, so, they phased out the Bauris of large parts of Gujarat, for example. And they said that we will replace it with municipal supply, and the British laid these lines down, but more recently, it is also the social structure that's toppling. So for example, you know, like Aniket Valam, in his book Discovering the Himalayas talks about the Nehrus as traditionally being a family that managed the nehers (water channels). They were not, you know, so called Pundits (priests) that happened much much later. And because that social structure of the families that manage the nehers are no longer managing the nehers and the nehers were in the mountain, the main source of water is rainfed, right? And well as the rest of the country, we would like to believe otherwise. But I must, you know, recommend that you read the central groundwater commission board on groundwater situation in India, our groundwater draw is four times the replenishment rate Yeah, and and it is all fueled by energy like wherever I give person or person a pump, then they are blindly pumping water out of the ground. And of course, there is the agriculture.... and nothing is going back .... The groundwater system has been completely disrupted.... Nothing is going back... completely disrupted... and and we're doing things like you know, injecting water through rainwater harvesting, recharge wells, which is disastrous, because so again, on the scientific front, there is something called a Renault's Number. Groundwater travels through the soil at the speed of Renault number of 1. So to put things into perspective, the speed at which blood flows through your body has a Renault's number of 1000. So water goes through so many layers, and it takes 900 to 1000 years to reach the aquifer. And now we're doing these recharge wells, you know, like overnight, we want to reach out the aquifers, this is going to have a disaster long term impact. So, again, that then gets connected to shifts in cropping patterns. So in the village, in the villages in Uttar Pradesh, especially around Meerut and Modinagar, where you will find that people are rampantly growing across the year sugar cane, which used to be a winter only crop and that is because the city's addiction to sugar is unparalleled. So, the demand for sugar never goes down and therefore, their cropping patterns are screwed. And because of that, their water consumption exacerbated and because of that, they have and then the industrial sector again in in parts of eastern Uttar Pradesh, Centre for Designs and Environment has covered this extensively, there is so much Arsenic poisoning in the groundwater because the industries have like you know, yeah, even textile industries, right. Very, very big source of water contamination. And there's they don't they don't follow the laws. CPCB and SPCB people are overlooked, or they're overridden. So I think it's a lot of these things that need to holistically be looked at.

**INTERVIEWER** 50:00

Reexamined, As Indians, I think we have had a severe rupture of our traditional relationship with water.

**RESPONDENT** 50:11

In fact, yeah, I must share that this whole, this initiative that was started by my colleague and friend XXXX, you know, where she just said something so simple. And she said that, traditionally, to date, by the way, in the villages that we work, they worship water is the mother. As water is the original life. And, and this is common to the western religion, this is common to Islam. And she said that look, if we if very simply, we were to bring that mindset back of worshiping water, then automatically it is very subtly, but very deeply connected to gender equity. And, and, and, and women's rights. And you know, so it's just, it's just so many layers, but reviving faith in such systems. Why I said Western Uttar Pradesh... sorry Eastern Uttar Pradesh was because if you go to any of these villages, and I was recently doing online workshop with some students, and they had, there was some students from Rajasthan, and they said that if this is true for Rajasthan and Gujarat, there is a simple process called the Kuan poojan (well worship), where if a new member is added to the village, whether it is someone who gets married into the village, or whether it's a baby that's born, the first thing is that the whole village gets together, and goes and requests the well to accommodate water for one more person. Right. And that, again, is the mother then. So I think a lot of these are.... they add richness to the experience of what it takes to develop a human being, you know, when we talk of human development, and a lot of these things need to be looked at in entirety, and and then energy as a part of that we will to deliver that larger intention. Yeah, that I think that would just have more resounding outcomes.

**INTERVIEWER** 52:00

Okay, so do you see different groups of women benefit differently from access to energy, or have different levels of access to energy?

**RESPONDENT** 52:11

I'm not sure if if I'm being if I'm being too simplistic in my interpretation right now, but personally, I feel that the more dependent you are on energy systems, the more benefit you can derive from access to energy. So it's very simple. I have friends who are running NGOs, who have massive operations, where they're going into villages, and teaching boys and girls, but with a more thrust on girls, how to work on computers. Now, obviously, if my entire dependency is on a computer, then I have to have unlimited power supply, to be able to depend on drawing my economic independence from a system that essentially functions on electricity. But at the same time, if, for example, XXXX did a very interesting study on Chanderi, the village of Chanderi. Right, we went and documented their local traditions, documented, the architecture, did measure drawing. We realize that chanderi doesn't rely on electrical systems, they are still relying on the handle and the entire village, different members in the family, contribute to the same creation of the same Sari in different ways. Somebody is responsible for dyeing, somebody is responsible for spinning somebody. And then there's the Master Weaver that's kind of training the next generation. So I think this is not to do with with male or female. It is to do with what are you relying on for your economic sustenance and for overall sustenance as a system, and Did you see women master weavers? No, we saw women master dyers, and we saw women must have he was in the mountains. We didn't see. So it's very interesting in the mountains, you see a lot of things that are reversed. So you will find Master Weavers here, but in the mountains, like for example, as a colleague of...

**INTERVIEWER** 53:59

Tribal communities, it is known that there are a lot of reversal of roles which happened

**RESPONDENT** 54:03

Whoa, oh, wow. Like Like really amazing. So the men might be very good at spinning, but they will not be very good at weaving, it will be the women only who are very good at weaving. in Jammu and Kashmir again, one of our colleagues has done a lot of study there and the master couple beavers are are women. So they will hand the skill over to to the girls of the family. Yeah, so so it just it's very rich and very varied across the country....

**INTERVIEWER** 54:30

If you look at, like the way energy, infrastructure and technologies are being planned, for example, in our country, then we have major investments happening in terms of infrastructure and technology. What are your views are the differences between men and women in terms of who benefits out of it? Do you notice a difference?

**RESPONDENT** 54:54

And not, not really, in fact, you know, if I tell you about my experiences, in Rajasthan...In the two districts that I told you about, you will be surprised that the larger number of educated persons in these districts are girls, or women. And in Churu district, it's a little different because the Marwadi community has invested extensively for the past 150 years, on education on educating the girl child. And in even over here, the so I can't really say, I can't I can't say that definitely, this is the case. Because if I think of one side, then it's a little different. If I think of the other side, then it's a little different. Yeah. But there is a there is a, there is a fixing of gender roles and expectations. And that, again, has a lot to do with exposure, then I guess, then there's going to be like, like, for example, a boy might get a cell phone earlier than a girl in a village. And computers also...

**INTERVIEWER** 56:19

Exactly, as part of exactly as part of this whole online education thing that everybody has been subjected to over the last year, that is a diTeririty, which has been noted very, you know, if a parent or parents can afford one machine, then it default it goes to the boy, and the girl gets to use it only when the boy does not need it, you know, for online classes, not Yeah. And by the end of the year, the girl is definitely behind the boy, in terms of education, because she just didn't have access to the medium that has been used for the last one year now.

**RESPONDENT** 56:54

Yeah, but but you know, then it's the same thing. Like if I think back to some exposures that we've had very specifically with the Muslim community, very, very clear favoring of the girl child making sure that the girl is empowered.

**INTERVIEWER** 57:10

Right.

**RESPONDENT** 57:11

I come with a preconceived notion that this will not be the case. And that's not what I experienced, I experienced the opposite, you know, so. So I think,

**INTERVIEWER** 57:22

I think many layers of social ....

**RESPONDENT** 57:25

I think I think one of the things that I see traveling into these areas is has always been a very, very humbling experience for me, because I have so many preconceived notions. In fact, my XXXX was sharing this with me when we went and, you know, interacted with the community in XXXX, actually, she said, I was clear that this is the answer that I was going to get. And then when I probed further, I was clear that, you know, they will come out with the truth, they are, they're eventually going to break and tell me, we are suppressed. That didn't come, you know, and she was like, that's crazy. And that's not what I was expecting at all. And I realized that, yeah, we don't listen, we are too busy trying to listen for the answers that we want. Whereas if we go with an open heart and an open mind, we might just hear something completely different. Their problems will be very, very different from from what we are expecting them to be. Yeah, yeah, yeah.

**INTERVIEWER** 58:22

So do you think men and women participate equally in decision making about energy access? Like, for example....

**RESPONDENT** 58:29

No no. No that, that? I don't know if I can say that. But yeah, that's a loaded question. Do men and women have equal rights to household decisions? Do they have equal rights? I'm not asking if they have equal rights, I'm asking if they equally participate? If they equally participate, if they have an equal say, in, in, in household decisions, see, energy access is something that villages don't tend to deal with things as individuals, we are city people, we tend to think very individually, we tend to deal with things very individually religious, don't do that. Villages deal with things at the level of the community. Alright, and whatever.

**INTERVIEWER** 59:14

So at the community level, do you think men and women participate equally in decision making?

**RESPONDENT** 59:19

Depends, I just don't know. Even though Rajasthan has a has a has by law mandated that the Sarpanch (village head) has to be a woman and every only the every third Sarpanch in different districts. I think it varies a little bit, every third Sarpanch can be a man but otherwise, Sarpanch has to be a woman. But from what we've seen, at least in the Jhalawar region, we've seen that the woman could be a Sarpanch but she's going to be sitting next to the man and the man is going to be the spokesperson. But but this is for the day to day functional decisions in the village. Energy Access, I think is a very it's a much larger, you know, aspect.

**INTERVIEWER** 59:58

No, okay, let me let me just breaking down to what I mean when I say daily decisions or everyday life decisions. Even within a household scale, like you were talking about a cell phone, you're buying. So if you say for example, if you have at the end of the month 2000 rupees extra, and you in a family of villages you've worked with it is to be invested into something. So who makes that decision, it takes that final call and make the final call if it is not 2000 rupees, if it is 50,000.

**RESPONDENT** 1:00:36

So, I have not had too much experience in this. But whatever little experience I've had, I've, I've felt that the larger money decisions go towards investments that can further the house or the farm, it could be in terms of acquiring land, it could be in terms of acquiring a new farm implements a farm equipment. That decision will be taken by the man, but not without the consent of the lady of the house. This smaller expenditure, definitely the 2000 to 5000 to 10,000 will be taken by the boom. But again, this is connected to how big is the house? And how much of the land holding. It's never. It's never direct.

**INTERVIEWER** 1:01:21

Right. So and like you already talked about a little bit about the gender equity in energy access between urban areas and rural areas or Peri urban areas? Right. Do you want to just elaborate a little bit about this in terms of what you have seen in terms of energy access, and in terms of gender equity within energy? So I'm asking you both....

**RESPONDENT** 1:01:45

In terms of energy access....

**INTERVIEWER** 1:01:50

When we like, put it on the urban, rural or urban - peri urban kind of.... if you've not noticed, it's fine?

**RESPONDENT** 1:01:59

No, no, I don't think I've noticed that because in the cities, I feel that it's very, very powerfully dominated by economics. And regardless of whether you're a man or woman, if you have the money, you call the shots. And in

**INTERVIEWER** 1:02:17

a dominant on economic Terie...

**RESPONDENT** 1:02:20

Extremely... in the peri urban areas, it's going to be... Yeah, we've just seen so much of a mix. Because I think I've come across, at least in my study, in the slums, I've come across a lot of households that are headed by women, because the men had left, they went back to the village, a lot of that happened during the lockdown. We will encounter women on the road, like, you know, my XXXX will be buying vegetables. And the lady came and said, Can you just give me some money? And she asked her why? And she said, Well, my man just upped and left, he went back to the village, he couldn't sustain us, you know, so So then she turned to the vegetable vendor and said that, is this for real? And he said, yeah, of course, just go to Kotla, you will find lots of people like this, lots of cases like this, you know, where they are just abandoned. So in that case, the woman automatically then falls into a role of responsibility and to feed the mouths, will then get a job and and then call the shots. Of course, I'm citing an extreme case. But, but a lot of these cases did come to light. Yeah. And then everything else comes from there.

Part 3

**INTERVIEWER** 1:03:32

Yeah, right. So to what extent does gender equity factor in your work?

**RESPONDENT** 1:03:42

In my work, well, how do I put it - the Urvara vertical is headed by XXXX. The Puck center vertical is a headed by XXXX. I'm trying to get two more people on board who had extremely extensive experience in villages. So there's XXXX. Yeah, I mean, I don't know if that's what you were alluding to. But yeah, there's there's

**INTERVIEWER** 1:04:09

I was moreif you have objective priorities or internal policies for gender equity, or is it something which happens accidentally?

**RESPONDENT** 1:04:22

It the we don't have policies for it at all, we just just so shapes up like that, that that the interest towards ecology, sustainability, and deep green commitments just come more readily from the girls. Can I generalize this XXXX? Does that make more sense? Yeah, I don't know. I'm just checking because it's better than I do a check. But yeah, but that's, that's, these are the people who kind of upped and quit their jobs and and come and join and said we'd like to start something that's massively challenging, you know, and they've gone out and created these models that are now causing, you know, ripples at the national level.

**INTERVIEWER** 1:05:13

So thinking beyond your specific work, do you think energy access policies needs to be gender sensitive?

**RESPONDENT** 1:05:20

Yes. Without a doubt,

**INTERVIEWER** 1:05:22

and how?

**RESPONDENT** 1:05:25

I don't know how I know, why

**INTERVIEWER** 1:05:27

okay, why?

**RESPONDENT** 1:05:28

How is always is the tough one, no clue how.

**INTERVIEWER** 1:05:33

Okay, so why?

**RESPONDENT** 1:05:34

For public transport for Christ's sake. why? Because I feel that I just feel that balance and sanity and, you know, just equitable distribution of wealth can just happen better when, when there's when there's equity, I feel that men will make the craziest decisions, like, you know, I mean, if I look at the national level, and I say that, why did we ever start importing super bikes? Or cars that can go from zero to 160 in six seconds? Is there any road in India that can accommodate that? Who even who even said that they would do that? I would naturally kind of assume. And I am very aware of a bias, as I say this, that I would naturally assume that if a woman was taking those decisions, she would allocate that energy to a better use. Absolutely. Absolutely. Absolutely. Or, or even education or even just lighting for adult education schools? Or they wouldn't say okay, yes, I give Mercedes Benz, right. Yeah, I think that's just that just comes naturally to women and the decadent, wasteful, you know, but I do also feel that society over time has created men to be decadent and wasteful, because a lot of what we have seen in Rajasthan, for instance, there are a lot of songs, a lot of names of people, of men that are, it's a minute, because they say that it is important that both the genders have both the both the genders have both the genders balanced in them, you know, what I mean? Like, the female should have equal male ability in her and the male should have equal female ability in him. So so a lot of their dances, a lot of their songs, would be extremely delicate, the into their movements would be counter to what I would say would be a masculine move, you know, and, and things like that. So so that's why I feel that the rural areas actually function very differently. But then again, there's a massive cultural rift over here, you might not find it in some communities, you'll find it very strongly in some communities. And I've seen that the question really to ask is that, can one replicate the sensibility of that community to create a more balanced society? Right, because as English speaking people, we tend to think that the problem is an object and the solution is an object. And then we forget the process part, which is the how part really, you know, so.

**INTERVIEWER** 1:08:02

So I just, I wanted to ask, actually, because since you've worked or in Rajasthan, you're talking about these various cultural nuances that are there in Rajasthan, what is your personal like, rationalization of these kind of gender sensitive cultural nuances that you have encountered that you were talking to me about in Rajasthan, when we put it across to their sex ratios and education ratios, gender ratios? Do you have any take on this?

**RESPONDENT** 1:08:38

But the take would vary from the two places that I cited reference of if I looked at Churu district in Rajasthan, and in the Marwadi community as invested in girl child education, like I said, from 150 years back, and they were equally empowered. Now, what needs to be understood over here is that if you've traveled to Churu, and you go to the local museum, you will find that sex and sexuality was very, very self expressed in local Shekhawati community, till the time that the British came and said, this is morally incorrect. This is not something that a woman should do. This is not something that is to be discussed in public. Otherwise they have children's Nursery Rhymes from six talking about sex very openly. So there is no inhibition there is no taboo to it, there is no you know, you, you are an object of my appreciation and I will now subject you to whatever the hell I feel like, that's not the case. And and the I don't think we have the faintest idea of what all transformation has happened to our culture over the past 150 years, it's worth studying and and it's not worth studying through books. It is worth studying through traveling to these places and asking them. Because I bought a book on XXXXX. Even if you look at Punjabi folk songs from weddings there are there is one night before the wedding that is the Sangeet night which is for both genders. But there is one night that has a Sangeet night which is only for the women and the songs are all about sex. And they're all in the local dialects and and that is something that is just considered 'haw'...(hindi - expressing shame).... They're so shameful... you know and taboo in in Western culture. In fact, a lot of it would raise eyebrows even amongst the so called educated elite today, they'll go listen to it and say this is outright, you know, this is an abomination. But what one needs to understand is, if you look at the work of Philippe Airies, Centuries of Childhood, who said the same thing about French culture, ti 400 years back, right, he said, The Louie the 16th, or whoever's Manny's diary that he based his research on, said that six was the age till which a child was considered a child after which he was considered or she was considered an adult. So they would wear the same clothes that are also there, they would be spoken to exactly in the same way, they will be parts of balls exactly the same as the adults would be. And the conversational domain of the taboo was not so strong. That came much later, it wasn't even a part of the church's initial, you know, that very strong gender role towards the man. No, it's worth pursuing. If you look at the work of Mary Clark, then, then it's worth looking at as to where did this come about? And it has a lot to do with economics. Well, she says there, at least, it has a lot to do with monopolistic economics, and not the free market method that same Adam Smith tried to come up with so. So yeah, the observations are very stark, they're all out there to discover. Okay, but what, why? Why am I saying this, I want to highlight this contrast that in the same instance, it's the opposite. If I look at if I look at Churu it's, there's not so much freedom for the women, that's where we saw that the Sarpanch is a woman, but she's going to sit quietly in the talking will be done by the man. And if you tell the man that look, why don't you shut up and let the woman speak? Oh, you will get some really dirty looks from the people sitting over there, you know. So, so, within the same state, there are so many subcultures that define the role. So, so I think that there are two things that define gender equity. One is, of course, the degree of education, which again comes from language and cultural history. And, and the second is religion, and what is the dominant religion, and also to do with, yes, also to do with, you know, how much invasion people have faced and how many wars they've been a part of. So, so for example, the tradition of Jauhar, which was highlighted in that movie, but nobody knew about it much before that, because a lot of these communities speak about it very openly. Just kind of just put the, you know, the women on the defensive on the backfoot due to the marauding conquests coming from the west, so some degree history, some degree, religion, some degree culture, some degree, folk, traditions, all that coming together to define what we are experiencing today.

**INTERVIEWER** 1:13:18

So you then probably see a lot of social and cultural sides to this conversation of energy equity. Right?

**RESPONDENT** 1:13:31

Yeah, in fact, I, in fact, I would say that I see a lot of social and cultural sides to conversations around life. And energy is something that we would like to bring it to. And so that so that we can have that conversation around energy with these people. But but that's not something that if I can put it that way, it's not something that they're so concerned about, like I feel that I as a city dweller, very concerned about energy. If the electricity goes for two minutes, I'm jacked. Literally, I'm like, Dude, what is going on? with them? It's, it's, it's not they have a lot of other things to, to include in their life in their day to day life, in their social interactions in their community, behavior in the festivals that they have, in their even their daily activities, their (hindi) daily routine. They have so many community based events to do to participate in. And again, I can't generalize this, but mostly we've seen a lot of this, that, that doesn't have their life revolve around energy. No. So the energy is not there. No problem. I'll step out. Not very different from what we experienced when I was young. If Delhi experienced a power outage, there was no problem. Everybody stepped out and they were on the street chatting with the neighbors catching up on what's happening, and we waited for the power outage to finish. And then we moved inside in life moved on.

**INTERVIEWER** 1:14:51

Nobody hyperventilated like we do now...

**RESPONDENT** 1:14:53

Not not at all, not at all. Now I feel it's become more and more known to be unbroken, it should be Unlimited, and then we don't know what kind of a you know, climate change impact that's, that's having. It's not a very comfortable conversation when I share it with my engineering colleagues. It's difficult for them to digest that the conversion efficiency is what it is. And it's all recession.

**INTERVIEWER** 1:15:13

So yeah, but again, XXXX we're going back to the same point where some people have too much, and we are used to too much. Whereas other people might not have even very basics, and yes, they have constructed lives, which are, which are comfortable without a lot of the things which we think are mandatory in our lives. But they also don't have some of the things which are like, for example, this whole, you know, cooking fuel thing and the cow dung and cooking fuel conversation.

**RESPONDENT** 1:15:14

Yeah

**INTERVIEWER** 1:15:16

I have been having a lot of discussions with even I mean, people researching in NGOs, who are researching with renewable energies and etc. and working on ground with indoor air pollution, indoor air pollution, and the level of pollution that comes out of these biomass.

**RESPONDENT** 1:16:01

 I don't know that I don't, I don't buy that. I don't buy it at all. See it is very simple. We really take village people to be dumb. They're not (hindi) my friend. If you travel to the villages, you will find nary a village where they have their chullah inside. They don't! They are not so.... They survived with the chullah for hundreds of years. We think that they are... you know, and I remember reports that I would read in XXXX, when they were trying to push the efficient XXXX. The efficient XXXX was a national project, it was being backed by XXXX, it was being backed by XXXX, it was being backed by the XXXX. And they said that you know, the statistics were very clear the research report said that lakhs of women die of lung diseases in rural households. So we went and said okay, show us! Why do you have chullahs indoors? They said who has chullahs indoors? Where do they have chullahs indoors? Who has chullahs indoors? Why would anybody ever have a chullah indoor? They all have chullahs in the (hindi) courtyard in Punjab in the outer part, in the outer part, in UP on the on the... on the roof of their house, right. in in in Uttarakhand, they have their their chullah indoors and man, you have to see their architectural design. Not a shred of smoke comes inwards because they make those rockets, rocket stoves, it's made out of mud and all the smoke bellows out. So, you know, I don't know how to deal with this. I really don't know, because I have read reports that are unequivocally saying that this is absolutely ridiculous. These people are dying. They deserve cookstoves. And then I'm trying to figure out that is this a stunt to sell cookstoves? Because in all the villages that I've traveled to, which is extensive across several states, and now even the Northeast, this doesn't happen. Their household vernacular architectural ventilation is phenomenal. And the people live to ripe old ages of 100. If anybody has a problem with air quality is us in the cities. We have lifeXXXXns of 60 to 70 years that is not what these people are experiencing. And and I don't I really don't know XXXX, I will reserve my opinion about grassroot...

**INTERVIEWER** 1:18:12

The reports come from people who have come from XXXX... ex XXXX people who....

**RESPONDENT** 1:18:19

I read these reports from XXXX and XXXX was backing the the efficient XXXXs...

**INTERVIEWER** 1:18:26

Efficient XXXX everybody discards because there is no efficient cookstove... it's a myth, there is no efficient XXXX, but the pollution level, and this is something....

**RESPONDENT** 1:18:37

I've read about this extensively. Mono. And I was very moved by this.

**INTERVIEWER** 1:18:43

There are lots of people doing fieldwork like exactly what you're talking about, who actually have worked with kitchens who started with working with kitchens and stuff like that. So I mean, I'm not saying like you might have seen something, but there are other people also and I personally have seen chullahs inside homes

**RESPONDENT** 1:19:05

Yeah of course like for example, I have seen chullahs inside homes in the slums in Delhi, I have I have seen... but not in not in...

**INTERVIEWER** 1:19:15

Even in villages I have seen... we have worked and there are other people also who I was talking to who have worked with actually started with looking at kitchen. So you should probably talk to XXXX because she's done an extensive... they're working on an extensive project of working on the design of kitchens in villages. So ...

**RESPONDENT** 1:19:41

You know, personally I feel that there is a lot of work on the narrative of what I don't know how to put it. I really don't know how to say it. There's there's a there's no work on the counter narrative. There's no work on what works. There is a lot of work on what doesn't work, there is a lot of work on how we can help and solve the problems of the village people whose lives are shit without us. But there's no conversation on what works. Let's look at what works. Let's see if, if there's a whole bunch of people who are using the same chullah that these people are using. And with a little bit of sensibility, they have the chullah on the outside. And they they have it in a manner that the smoke bellows outwards, what is the wisdom over there? And can that be done because the chullah is made for free. And then it is broken and remade and broken and remade. Whereas if I have to sell anything, then I have to cast it in aluminum, smelting energy consumption is massive. So there's a lot of you know, I personally don't know. I don't know who's pushing the agenda, basically. So really, that's my basic concern.

**INTERVIEWER** 1:20:51

So if you imagine no policy or financial constraints for a moment, what in your view would be best practice for achieving gender equity in energy access?

**RESPONDENT** 1:21:07

I've never thought of that. What? I haven't heard of that condition at all. No, no. Can you.... Can you say something more about it? Can you kind of just share some trigger thoughts?

**INTERVIEWER** 1:21:26

Your this is, this is what comes from you. This is not something I can ....

**RESPONDENT** 1:21:38

No, no, I feel I feel that if money was not a concern, and then then I think the I'm not sure I'm I'm not sure if this is this is the answer. But I would again, feel that yeah, it would be replicating about it would be replicating what works, and and replicating what works is not necessarily this whole, you know, energy consumption paradigm. It's not necessarily that. You know, one needs to look at the remoteness of the villages, where they are, what is the geological context? What is the ecological context and then try and see if what works can be replicated from the parts of the country where it works, where where gender equity exists, regardless of this access to energy or not, what makes it work there? Because Because then energy equity and the use of energy is an extension of that conversation, which is founded on gender equity. How can I do that is a question that will be worth my life.

**INTERVIEWER** 1:22:41

You know, I mean, like, for example, like what you were talking about, it was a piped water versus you know, traditional rainwater harvesting is something that has been talked about even by people working within the renewable and electricity sector, you know, yeah, like, where they have worked with is connected areas with DREs, and, you know, small micro hydro pumps or solar substations, which serve, you know, 20 villages, 20, houses and all that, and then the grid came, okay, and so immediately, because the solar needs a little bit of maintenance, needs a little bit of work, needs a little bit of, you know, working with it, and then there is the grid promise of everything is solved at your doorstep, and how easily the switch happens, only to find that the grid power is not stable. And you and you are only getting while you used to get solar energy, probably about eight hours a da,. Now with grid your energy is just two hours, or....

**RESPONDENT** 1:23:48

Yeah, it's actually both ways because even solar then, you know, the slightest cloud cover, the slightest dust, the slightest shadow, we were very surprised. There is a colleague of mine who has done a lot of work in XXXX. And, and he said that it's it's it's shocking, if you see the kinds of energy access issues that villages face, he did this under, you know, XXXX and several other people who funded all these initiatives. But it was like, you know, again, I don't agree with these approaches at a very simple level, he did the project, and then after a little while, either the solar panel was stolen or the bomb was stolen or the for the legs of the stand was cut off in the metal was stolen. So I see.... him

**INTERVIEWER** 1:24:36

They are not sustainable solutions within the cultural context... thats what you feel...

**RESPONDENT** 1:24:43

No!! These are measures which which ...Yes, you have to first strengthen the cultural context, you have to first strengthen gender equity....

**INTERVIEWER** 1:24:49

With the cultural context, solutions which integrate within the cultural context ....

**RESPONDENT** 1:24:54

That that could be one way of looking at it but unfortunately with the cell phone and with you know, with the internet and 4G going to the villages, the cultural context also changing very fast, very fast with the narrative....

**INTERVIEWER** 1:25:07

yeah, when you are talking about people not needing energy, but at the same time when I'm working on in far flung villages, I see people glued to their smartphones,

**RESPONDENT** 1:25:18

Which is something that we've seen across...

**INTERVIEWER** 1:25:19

Especially the younger generation. So, I mean, I think I do it also, you know, like we with our smartphones and everything we should be the last people to lecture them )hindi) you people stay traditional... You should be connected to the soil.

**RESPONDENT** 1:25:37

Oh, yeah. Exactly. So I personally feel that, you know, if this kind of strengthening happens, happens first one priority, and gender equity is built into the bones of the community, then you wait and see, let's see who still steals that solar from you wait and see.... the women will come and break the guy's legs out? You know, we've seen the kind of stand that that women have for the families and for the communities that are unshakeable. Right? I mean, I hate to use a very kind of (hindi) cliched example. But whether it's the Chipko movement from 400 years back or Chipko movement from 30 years back, it was the women who had the courage and the guts to say that, no, we don't care if people lose our legs, you catch a man doing that, that's not going to happen. It's not very easily observable.

**INTERVIEWER** 1:26:25

So, you know, based on the same thing, or like, what, on the same narrative that you were kind of talking about this, this is one question which I talked to a lot of the people I was interviewing, who are connected to Ujjwala. And I was asking that why are we making our access to clean fuel... I mean, because the cooking fuel the cleanliness of cooking fuel is something which I think is a non negotiable, like it can be, as you said, very good chullahs, which don't contribute to the indoor air pollution, but then they can

**RESPONDENT** 1:26:59

Can I offer the counter narrative?

**INTERVIEWER** 1:27:02

No one sec, can I just finish? Yeah, I was, I was asking that why should we depend on LPG for the solution of clean cooking because LPG at the end of the day is a petroleum product. We are not a petroleum independent country, we depend on other countries for petroleum. Look at what is happening with LPG, where the prices are shooting through the roof. And obviously the person who's been struggling to buy a 600 rupee cylinder is not going to be able to afford 1000 rupee cylinder. Yeah. So that is that is where she continuously again goes back to her woodfire or to her dung cakes, and inhales all those pollution because you are not being able to transit her. Yeah, in a sustainable clean cooking and why are we not looking at other means, like even, for example, if you look at solar electricity, and stoves, electric stoves, which are fueled out of the solar electricity, both of which are tangible technologies, means I'm just looking at the technology solutions, right? I'm just talking about so I was just asking. So that is also something which has baffled me and I want to ask you that question that you had when you say lobbies, we all know what big lobby petroleum lobby is?

**RESPONDENT** 1:28:17

Absolutely, absolutely see, I feel that it's very interesting. It's drilled into us very slowly. The other day, I was looking at the the NCRT, I think sixth class science book, which said that the calorific value of LPG is very high. And the calorific value of dried dung cakes is about 6000 kilocalories per kg, whereas LPG is about 24,000 kilocalories per kg. And I was like so so who says that one is better than the other because if I look at decentralized emissions, from a well, well dried cow dung cake, or from dried wood, the way that people use it, say, for example, in Spithi and Lahaul, and in Ladakh, XXXXX In fact, I just guided a dissertation on this aspect. And the results were shocking. So so so it's absolute bunkum, because what we are basically talking about is the whole good old conversation about sourcing, you're basically externalizing the emissions to someplace else, and I don't know where that someplace else is, but here it's happening in front of me and I can see the smoke so its a problem. And and I remember this very well, when when the when we had made the switch to CNG if you remember the year 2000 because you remember I used to bicycle from hostel to college and, and I used to really feeling the diesel, you know, like the fumes. And then when they switched to CNG, they said, oh, wow, it's green, it's clean. And then after a little while, they said that no, it's not clean. Actually, the particulate matter emissions. emitted by diesel does not harm the human lungs to the extent that the CNG emissions do, because the CNG emissions are finer. So they tend to be settle deeper in the lung tissue. And they tend to have a much longer term damage than the the damage that you would experience through, you know, eyes smarting and your nose getting black and all that stuff due to the soot of these. So I realized that it's over time, we have enough evidence that the so called stop gap scientific interventions do not work because we've never observed what their impact is over the long run. You look at short term impact and start beating the drum and telling the whole world that is a phenomenal solution. Whereas the actual low cost, low energy, decentralized emission based solutions are already there at the grassroots in India. But the only problem is they will not help a capitalist establish his empire or her Empire. It's not going to push those buttons. It is not going to allow 500 strong Corporate team to have a head office in good ground. It's not going to work. It just won't work. You know. So so we are we're, this is Pandora's box, man. It's, and it's all interconnected. And I feel that gender equity is imperative but not in the energy sector. I would love for these corporates to just be entire women led organizations and women led teams. I was talking to my mom yesterday about how Indra Nooyi converted the product base of PeXXXX by convincing them that it took us six years to convince the PeXXXX board that they need to go off all the unhealthy packaged stuff and start switching to healthy stuff because people in general are switching to healthy stuff. And I didn't think that, you know, it was a very long fight that she put up to convince them. But I do think in general somewhere.

**INTERVIEWER** 1:31:56

Yeah, so I thought I was actually going to ask you in the next question that what do you think of the gender representation in various decision making bodies within energy administration government structures? You think there are adequate gender representation?

**RESPONDENT** 1:32:11

No, no, there isn't. Not at all. There just isn't. And unfortunately, you know, this, I mean, your seminar on, you know, on gender was eye opening for me, because I was reading this, this professor from MIT, What was her name? I forget.. Resisting Reality... right here. Yeah, Sally Haslonger, you know, I was reading her book, and she's a professor of gender studies. And, and I think what is important to know, is how much of our modern gender roles are being driven as a reaction to male domination, which is, which is a very important questions, that question that, that she asks, and she says that, well, the book is very vast. So it needs to be read from that perspective. But, but why I'm saying that is that many times the women in positions in the government sector will come and take the same decisions that the men will take, like, why would you do that? Why would you not take the decision borley as as the as the fully self expressed feminine force, whatever that means. I have no idea what that what that means. But, but something that is counter to the general let's just kind of you know, go with the flow. And, and, and more gutsy decision which which someone like Indra Nooyi did or so many others dont!

**INTERVIEWER** 1:33:31

Hunt and Kill versus care and nurture

**RESPONDENT** 1:33:34

Yeah, I'm guessing. I mean, I don't know if I can trivialize that. Because in Rajastan, I against him sensitivity towards both. Not even in Rajastan. I mean, I've seen in the slum that I surveyed when I was doing my dissertation, incidentally, I saw households where the boy after coming from school would cook food for his siblings, because both the mother and father were working. And the nurture came naturally to the boy I'm talking about a very young, about 10 or 11 years old, but he knew how to.... his forearm was burnt over here because he had singed the skin but the guy knew his way around the kitchen, stuff like that. So I think it's not it's not fixed, per se,

**INTERVIEWER** 1:34:13

but that is socialization. I

**RESPONDENT** 1:34:15

Yeah yeah. Yeah.

**INTERVIEWER** 1:34:17

I'm not saying that. I'm not

**RESPONDENT** 1:34:19

I'm just Yeah.

**INTERVIEWER** 1:34:24

It happens, right?

**RESPONDENT** 1:34:25

Yeah. But it can be the other side. Yeah.

**INTERVIEWER** 1:34:28

I find my son to be far more of the caring than my daughter. It's, it's it's a gendering that that I mean, happens basically, I was just talking about two different approaches which we call the feminized approach or the masculinized approach, you know, approaches generally what is called the hunt and kill approach which goes back to the traditional what you what we think the, you know, the caveman they do want to kill whereas the women did nurture and gather, I mean, forage and gather and which was more environment friendly because it worked with the nature to provide, rather than just like the kind of a terminology that is used.

Part 4

So just last points are where we're almost done. I just wanted to ask you, I mean, because we did come all the way almost to finance. So I just wanted to ask you about like, what do you think of gender sensitivity within finance structures for energy, infrastructure, and especially renewable energy, infrastructure etc? Do you think these processes are gender sensitive? Do you think there needs to be more gender sensitive?

**RESPONDENT** 1:35:41

They need to be more gender sensitive at a at a source level? See, when we say that, what is the sensitivity within the finance structure? You're talking about a structure that was created by men at large... And then you're saying that is this sensitivity inside? No, I think that the sensitivity needs to be at a meta structure level, rather than being able to play the cards, you know, you know what I mean? I don't know what the I don't know what that would look like. I don't know how we would be able to achieve that. But finance, now that I'm kind of, you know, dealing with cash flow statements, and very kind of, you know, raw business acumen kind of sensitive, sensitive, sensitivity, which I have personally never had. But now I've had to nurture to try and see how can, you know, one, make a business profitable and play the game the way it's meant to be played, whatever that means. I feel that it's, it's, it's bottom line, aggressive. It's it's this it's it's the fight or flight. And, and here, there's no option of flight... you got to fight. You know. So I feel that in finance, bringing that aspect would also allow for a little relaxing of the kind of, you know, when they say you must have aggressive, aggressive sales target now, Who's speaking? Who's who's setting the benchmark? Who's saying this, what what gender role is speaking here, when you say that you must have an aggressive sales target? I mean, you should be looking at GDP growth rates or inflation rates of x, who's saying this? And what is the ambition behind it? What is the intention behind it? So I think, yes, sensitive sensitization is very, very important. And and, like, you know, I don't know if I can cite that reference. But yeah, I was, I'm very proud of the fact that the SS that XXXX has always had that 50-50 rule, that no, we will always have a 5050 intake of girls and boys, finance schools went down that path, but also ensure that those 50% don't get out and just get married, because they are again, falling into the trap of a general rule. But they actually see their way into the market. And we're able to actually express themselves fully in light of the, you know, the, the sensitivity of the other side that they bring in, then, yeah, then I'm, I'm very clear that the Sustainable Development Goals are a no brainer.

**INTERVIEWER** 1:38:04

Talk about 50% women intake, but it's like as just what you were talking about with, you know, if those women have not learned to think like women or and if men have not learned to think like women or in a feminized manner. I mean, I would use the word feminized more than think like men are like women. Yeah, its counterproductive, right.

**RESPONDENT** 1:38:27

I mean, I would use the word. I wouldn't use the word feminist, I just realized that I would use the word holistic. I feel that I tend to think more, you know, that, okay. It's, it's, it's like, yeah, it's hunt and kill. It's like, that's my target, I have to get to my target. I don't care what's happening to the world, I will get that target. There is a there is a more holistic approach.

**INTERVIEWER** 1:38:48

Yeah, perhaps more relevant, like terms that are used, like by feminized, we mean the that empathy based looking at the larger structure, which, yeah, generally, because women are more like embedded within the social structure, they end up doing no matter what, you know, because they have been stuck to the care and nurture roles more. Yes.

**RESPONDENT** 1:39:14

Over here, I feel this one, professor. What's his name? Yeah, the Canadian professor. I mean, I appreciate his work. he's a he's a bit of a controversial guy. But I really appreciate his work on on gender, that, you know, he highlighted this fact that in cultures that give full freedom to women, women don't tend to behave like men. They tend to become the fullest expression of the feminine. And and I've seen this in Israel, where they're fully empowered, they're fully self expressed, and fully self expressed to be whatever the feminine force is, you know, and I think that I'm not I'm ill equipped to comment on that because I've just been brought up in a very different cultural framework. You know, of course, my mother was extremely empowered as member of a family... called most of the shots, you know, but yeah, I think that's important to listen to what he's saying and why.

**INTERVIEWER** 1:40:11

Michael Kimmel? who you are talking about?

**RESPONDENT** 1:40:13

I just, I keep forgetting his name. I see his videos and I forget his name.

Part 5 (Closing)

**INTERVIEWER** 1:40:19

Okay. Can you send me? So anything else you think we should discuss on this topic? For?

**RESPONDENT** 1:40:29

No. Yeah, I think yeah, that's, that's about it.

**INTERVIEWER** 1:40:33

So,

**RESPONDENT** 1:40:36

once again, sorry. xxxx

**INTERVIEWER** 1:40:41

Jordan Peterson. Yeah.

**RESPONDENT** 1:40:42

Just Oh, yeah.

**INTERVIEWER** 1:40:46

So if there are any follow up questions, would you be available to address them?

**RESPONDENT** 1:40:52

Yeah, absolutely.

**INTERVIEWER** 1:40:56

And, yeah, so I would like to know, if you know, any non binary people working in the energy sector?

**RESPONDENT** 1:41:07

Oh, that's an awesome question. That's an awesome question. No, I don't.

**INTERVIEWER** 1:41:16

Yeah, I have been, I've really been struggling with this. Because I want to include at least like, because we end up having this whole gender question as you know, men, women, don't we just have an I'm really, I have a mandate to try and include, I mean, not mandate given. But I really want to include, then we perspective also, but I'm really struggling with finding somebody who can talk from within the energy sector, you know,

**RESPONDENT** 1:41:44

no, no, you know, because I feel....

**INTERVIEWER** 1:41:46

or even a heightened understanding of the energy sector would help.

**RESPONDENT** 1:41:51

No, I think that has a lot again, to do with the metal with the metal conversation. Because if I if I say, Okay, how many non binary people do you know and Finance? How many non binary people do an architecture? How many non binary people do you know, in sales or marketing? I think my answer would be the same for all of this. I don't know any non binary people in these roles. You know, so energy just as an expansion, right? Yeah. That's crazy. That is absolutely crazy. But that's opening for action...

**INTERVIEWER** 1:42:17

Yeah... that's a huge

**RESPONDENT** 1:42:18

Its a huge opening for action. Yeah. Yeah, absolutely.

**INTERVIEWER** 1:42:22

Even if we have started talking about the women's perspective, we have just, for example, well, actually, I was talking to the main consultant who actually designs all the programs. And I asked her that because the entire format is this household, right? households are very traditional family format. That is talked about. And so I asked, what about the people who don't live within that traditional family format? What do you do when you're talking about a home, which is a group of homosexual men? How do you give them an LPG connection? She didn't have any answer for that?

**RESPONDENT** 1:43:03

Oh, I can ask. Yeah, that that I can ask. I have homosexual friends. Or you can ask how did they get there LPG connection... They will tell you, but these are very privileged men. So So yeah.

**INTERVIEWER** 1:43:17

Somebody was informed about, you know, the energy and gender question at some levels,

**RESPONDENT** 1:43:22

incidentally, from XXXX, one of our super seniors, but yeah.

**INTERVIEWER** 1:43:27

Okay. Okay. sallows XXXX. It was really great talking to you, man.

**RESPONDENT** 1:43:31

Likewise, always.

**INTERVIEWER** 1:43:34

And thanks a lot. That was a very refreshing the different discussion we had today. And in fact, yeah, so it was good to have have a strong alternative point of view, as required.

**RESPONDENT** 1:43:47

Yeah. Yeah. Thanks a lot.

**INTERVIEWER** 1:43:49

And see you. Thanks. Thanks.

**RESPONDENT** 1:43:52

Bye.