



REPORT

Capacity Building Workshop 2: Harnessing Renewable Energy: Opportunities and Challenges

Jointly organized by
Paryavaran Chetna Kendra
Potka

SAMVAD
Ranchi

Vasudha Foundation
New Delhi

With support from



Paryavaran Chetna Kendra
Potka, East Singhbhum, Jharkhand
16-17 April, 2011

Report on
Capacity Building Workshop 2
Harnessing Renewable Energy: Opportunities and Challenges

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Potka, East Singbhum, Jharkhand

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DAY 1: 16.04.2011

The second in the series of capacity building workshop, "Harnessing Renewable Energy: Opportunities and Challenges," organized at the Paryavaran Chetna Kendra in Potka of East Singhbhum district on 16-17 April, 2011 had 32 participants from 3 districts of Jharkhand. Village heads, Panchayat elected heads, grass-root development workers came together in this workshop which made its mark in a state that has more than half of the villages don't have access to electricity.

Mr. Sidheswar Sardar, Secretary of the Paryavaran Chetna Kendra welcomed the gathering. Outlining the basic purpose of the workshop, he explained that in the next two days all things related to renewable energy would be explained, discussed and debated.

Setting the tone for the workshop, Mr. Ghanshyam, secretary of Samvad spoke about power situation in Jharkhand, the kind of energy access people enjoy in the state, rural electrification, and climate change.



Jharkhand produces much electricity, but this does not reach our villages as large part of it is sold to states like Bihar, West Bengal and Orissa. Even the displaced people from the power projects area who were rehabilitated elsewhere do not have power supply. By and large, more than half of rural Jharkhand continues to be deprived of electricity.

The country wants to generate more electricity by means of putting up more thermal power plants or nuclear power plants. If we look at what has happened to Japan and its nuclear power plants located in earth quake zone, we should revisit our decision to go for more nuclear power plants.

Even in this block, an uranium mine operated in Jadugoda. A closer look at the people of surrounding villages to that mine would show the effect of radiation on them.

Post the Japan debacle, voice against having more N-power plants has become louder. A march is being organized by people opposed to N-power plants from Mumbai to Jaitapur in protest against the decision to set up N-power plant there which falls under high seismic zone.

Thermal power, especially power from coal is also not the answer. Look at our coal mines and coal fired power plants in places like Tandawa, Jharia, Bokaro. No one gets clean air because of coal dust and smoke. In these areas, if one goes out in the morning it would be difficult to recognize that person after he comes back after few hours.

Coal also contributes hugely to climate change. So the solution lies elsewhere and it is available in the form of renewable energy waiting to be tapped and used to meet our energy needs, particularly in rural

area. Renewable energy is emerging as a huge alternative which is clean, safe and environment friendly and does not affect our environment.

So let's learn as much as possible about renewable energy.

Mr. Srinivas Krishnaswamy of Vasudha Foundation took over from Mr. Ghanashyam. He started with asking two questions to the participants: 1. How many villages in your area has got power connection; 2. What is the duration and quality of power supply?

Most of the participants informed that most of the villages in their area don't have power supplies. And wherever the supply is there, it is erratic. Below are some of the responses from the participants.

Jagabandhu: In my village power supply is only for 7-8 hours and irregular. There is no certainty of when the power comes and goes.

Barier Madi: We have power connection, but it is hardly available to people. Often we don't have power throughout the night. Kids suffer the most as they face difficulty in studying because either of no power in the night or of low voltage.

Subodh Sardar: There is no certainty of when they are going to connect my village. They have erected poles which have been there since last two years. No one knows when they are going to put wire.

Sumitra Barla: Yes, my village has power supply, but virtually there is no power as we get it only for 2-3 hours. Most often, no power in the night; whatever we get is of so low voltage that it is better to light kerosene lamps.

Rejan Gudia: Last year they set up a transformer in our village and connected that to the grid. But no effort was made to facilitate authorized connection. So, people close to the transformer started using electricity illegally by hooking. Then, the transformer got fused. After that, it is back nowhere as it used to be.

Sadho Purti: In my village, there are poles standing sans wiring for the past two years. And this is case with so many villages in our area.

This was followed by another question from Mr. Krishnaswamy : In the middle of April, there is so much heat, the days have become so hot. Can you guys tell us, how was the weather 10-15 years back?

The answer was unanimous that the situation has changed radically, the climate is changed now. There are more instances of erratic rain, diluted winter, less surface and ground water; agriculture has suffered; livelihood affected.

JHARKHAND AT A GLANCE

Total area: 79, 414 sq km

Rural area: 77, 927.57 sq. km

No. of districts: 22

Blocks: 212

No of Villages: 33,620

No of Villages electrified: 14, 464

No of villages connected by road: 8, 484

Reserve Forest area: 4, 387.20 sq km.

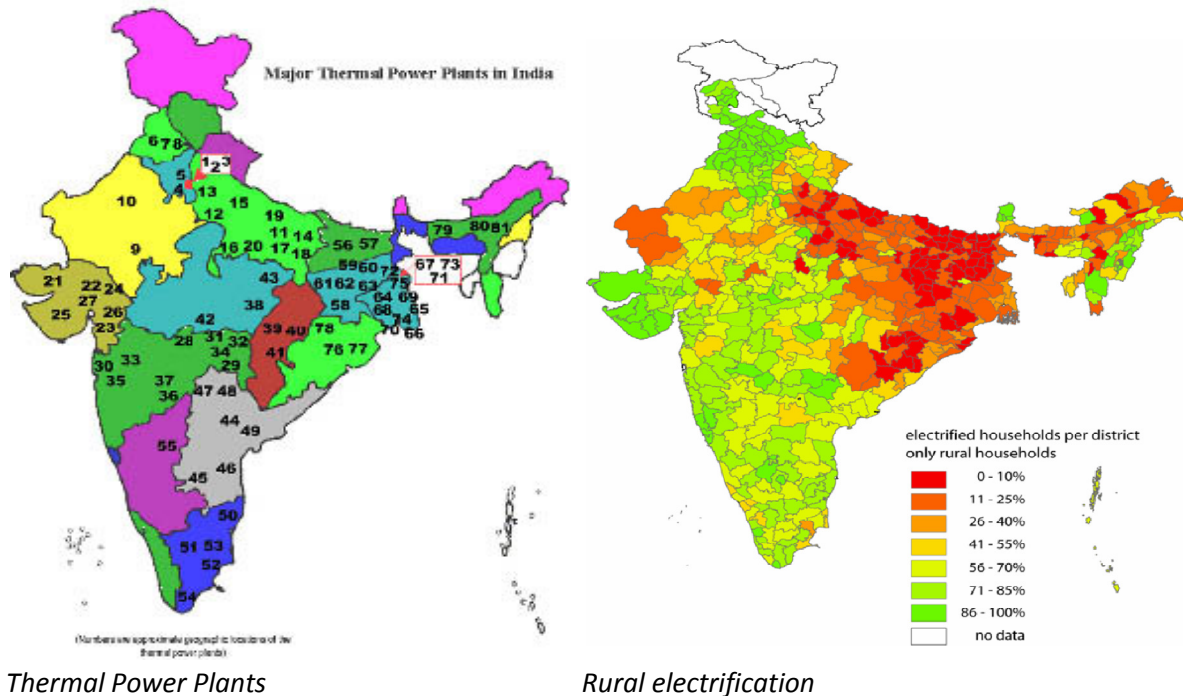
Protected Forest area: 19, 189 78 sq km.

Un-classed Forest area: 3349 sq km

As of 2006

Mr. Krishnaswamy then talked about the rural electrification programme in India, climate change and its reasons; the link between the power generation and the climate change; and how more dependence of thermal power is contributing to the situation.

Talking about the rural electrification and power generation, he showed two maps, which demonstration how the concentration of thermal power plants has not helped rural electrification even in the surrounding areas.



Around 55 % of villages in Jharkhand alone does not have access to electricity. In Big cities like Mumbai, Chennai etc, power supply is for 24 hours, the situation is pathetic in the villages.

He then went on to explain how a thermal power plant works in and how the emission from these plants contributes to health as well as environmental hazards and climate change.

Given example of Jaitapur, where a nuclear power plant is being commissioned amidst much controversy he said that the location is close to sea, very much akin to the plant in Japan where post earthquake and tsunami created havoc.

But then, the government is bent on adding more thermal plants with the belief that by using more coal in more power plants it would solve rural electrification problem which has not happened on the ground as evident from the maps. But the carbon pollution has gone up.

Then, it is not about the electricity but access to energy that can provide power for other needs including the agriculture and economic activities. At present, we depend on diesel or kerosene generator sets. If we look at the price of diesel and kerosene, generating power by using these fuels is not economical

So, Renewable Energy is one solution which can meet our energy need in villages. We shall have detailed discussion about the sources and tapping of these sources in details, but before that.

The participants were shown a short film titled “AAROHAN”

The film is about a village which lost its sustainable ways of livelihood due to bad development practices and climate change. The newly elected woman sarapanch from that village, although faced many hurdles and difficulties, as a protagonist tried to bring back smiles back to village people by organizing the village people and making them adopting sustainable techniques and practices that also included exploring renewable energy sources. The village makes a turnaround from a drought prone, starving and hopeless situation to prosperity: good harvest, enough water, energy access et al.



The film screening was followed by a lively discussion initiated by Mr. Ghanashyam, where participants commented on the film and tried to relate what was projected in the film with what they face locally. They appreciated the film and talked about an integrated approach, especially integrating renewable energy into life style.

A few of the opinions expressed by participants

- The film has shown how people mobilization can result in dramatic changes
- It has shown the steps a village should take to be make a turn around and be self sufficient
- It has shown how micro planning with the involvement of all stake holders can bring back smile to village life with all round development

The participants also spoke about renewable energy facilities in their area. Except for two or three participants who have seen biogas or solar lighting systems all wanted to know more about RE.

The post lunch session was screening of three films on biogas, solar home lighting and wind. Discussion followed after the screening of each film about its potential, functioning, how to get the systems, operationalisation, maintenance, cost and short term as well as long term benefits.

This was followed by actually demonstrating two models of solar home lighting system describing about the system and how it works and how that would be beneficial to household having no power supply



DAY II

The second day session began with the screening of another film on pico-hydro. Then a discussion ensued about how stream waters can be tapped for irrigation and generation of electricity. Participants from highlands observed that given the mountainous terrain in their areas with many mountain streams, there is immense possibility of tapping water for energy. Then, the mechanism and cost of setting up pico-hydel projects were discussed.

The discussion reverted back to exploring possibilities of having RE installations. Most of the participants expressed that with ample cattle population in villages bio-gas is a viable option. Similarly, small solar home lighting system easy an easy option to light rural homes.

There is consensus that demo biogas plants and small solar home lighting devices should be made popular by generating awareness on this. Participants opined that demos should be held in as many as places in rural area to make people familiarize about these options.

There was a proposal to that women self-help groups should buy 8-10 small solar lighting devices and hire these to small shops or to small functions for lighting purpose and boost the income of the group.

Mr. Srinivas also spoke about solar water pumping system which can pump 80,000 ltrs. of ground water per day for irrigation purpose. Drawing a parallel between diesel pump sets and solar pumping system he explained how the later could be cost benefit in long run without polluting the environment.

Participants expressed that education materials in simple local language and small films on RE should be distributed widely to which Mt. Ghanashyam and Mr. Srinivas agreed.

Creating Model village

Then the discussion moved towards creating self-reliant model villages



Mr. Ghanashyam spoke about possibility of identifying one or two villages in each block and turn that in to a self-sustaining model village over a period of 5-6 years. He talked about the pre requisites of a model villages such as good sustainable agriculture, sanitation, health, RE, organic farming, livestock so on and so forth.

How a simple measure like having bio-gas plant can benefit in many ways, he

spoke about having such a plant can rejuvenate livestock population, provide quality manure, get good harvest, generate more income from farming. Similarly, a check dam can bring immense benefit to a village.

He spoke about conducting a baseline study of an identified village to document its existing resources. In the process, also to speak with village elders who could recollect about earlier resources the village has had in the past; and then come out with a scenario in which the village wants to see itself after 5-6 years. The transition to achieve the desired result would involve micro planning and meticulous implementation with participation of the whole village. Everything will depend on how one want to see his/her village in after 5 years. It was agreed that the participants will identify villages for in their respective working areas.

Mr. Bibhisan, secretary of Paryavaran Chetna Kendra in his closing remark thanked all participants. He urged the participants to go back and tell people what they learnt as well as try to implement some of the ideas they are taking back.



List of Participants

01. Mr. Salge Mardi
At- Meria, Po: Musabani
Dist. East Singhbhum

02. Mr. Sreepati Sardar
At/PO; Chakri, Polka
Dist. East Singhbhum

03. Mr. Bibhishan
At- Bada Sigdi, Po: Potka
Dist. East Singhbhum

04. Mr. Rejan Guria
At. Derang, PO: Dumungdiri
Dist. Khunti

05. Mr. Briyar Mardi
At/PO; Rimra
Dist. East Singhbhum

06. Mr. Saro Mardi
At. Salgadi, PO: Butgora
Dist. East Singhbhum

07. Mr. Pano Sardar, Panchayat Head
At/PO; Sarmanda
East Singhbhum

08. Mr. Chamak Bhumij
At. Bayangbill, Jamshedpur
Dist. East Singhbhum

09. Ms. Kalpana Bhumij
At. Bayangbill, Jamshedpur
Dist. East Singhbhum
Dist. Gumla

10. Ms. Rinki Devi
At. Saskari, PO: Nager
Dist. Gumla

11. Ms. Laxin Devi
At: Lakya, PO: Sesai
Dist. Gumla

12. Ms. Sumitra Barla
At: Lakya, PO: Sesai
Dist. Gumla

13. Mr. Deo Singh
At: Bada Sigdi, PO: Potka
East Singhbhum

14. Mr. Rakesh Sardar
At: Bada Sigdi, PO: Potka
East Singhbhum

15. Mr. Prafulla Sardar
At: Bada Sigdi, PO: Potka
East Singhbhum

16. Mr. Ganesh Sardar
At: Tiiring, PO: Juri
East Singhbhum

17. Mr. Sanjay Sardar
At: Tiiring, PO: Juri
East Singhbhum

18. Mr. Sanjay Kumar Sahoo
Jamshedpur, Mango
East Singhbhum

19. Mr. Hakim Sardar

At: Dokarsai

Kalikapur

East Singhbhum

20. Mr. Ravi Cad Sardar

At: Rocpdih

East Singhbhum

21. Subodh Kumar Sardar

AT/PO: Roladihi

East Singhbhum

22. Mr. Satish Sardar

At/PO: Sarmanda, Juri

23. Mr. Surendra Biruli

At/PO; Barkundia

Dist. West Singhbhum

24. Mr. Sadho Purti

At/PO; Tuibana

Dist. West Sinhbhum

25. Mr. Singo Sardar

At: Pandudhi, PO: BBango

Dist. East Singhbhum

26. Ms. Mejali Singh

At- Bayangbill, PO: Sundar Nagar

Dist. East Singhbhum

27. Ms. Solma Besra

At: Basila, PO: Kalikapur

East Singhbhum

28. Mr. Fakir Sardar

At: Mejogora

PO: Bhalki

East Singhbhum

29. Mr. Salge Murmu

At: Meria, Musabani

Dist. East Singhbhum

30. Ms. Basanti Hansda

At: Meria, Musabani

Dist. East Singhbhum

31. Mr. Siddheswar Sardar

Secretary, Paryavaran Chetana Kendra

Potka, Dist. East Singhbhum

32. Mr. Jagabandhu Murmu

At: Motkamdihi

PO: Kalikapur

East Singhbhum

33. Mr. Ghanashyam

Secretary, SAMVAD

Urmila Enclave, Peace Road

Ranchi

34. Mr. Srinivas Krishnaswamy

Vasudha Foundation, Delhi

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Harnessing Renewable Energy: Opportunities and Challenges

Organised by Samvad, Ranchi, in collaboration with Vasudha Foundation, Delhi

Paryavaran Chetna Kendra, Potka, East Singhbhum Jharkhand

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Programme Schedule

Session	Topics
16 April, 2011	
1000-1030	Registration
1030-1045	Welcome address by Mr. Ghanshyam, Secretary, Samwad
1045-1115	Introduction of participants
1115-1130	Tea Break
1130- 0100	Overview of Energy access in rural India and Overview of Energy Needs
1300-1330	Q & A
1330-1445	Lunch Break
1445-1545	Basics of Renewable Energy – How does it work and will it address energy needs
1545-1615	Q & A
1615-1630	Tea Break
1630-1730	Renewable energy Programmes in India – case studies of some projects – Video documentary with analysis
1730-1745	Q & A
17 April, 2011	
1000-1100	What we need to do to implement RE Projects - Presentation of basic tool kit for common man's understanding
1100-1115	Q & A
1115-1130	Tea Break
1130-1245	Implementing RE projects: Challenges, available incentives, different schemes and funding sources
1245-1315	Q & A
1315-1330	Wrapping up by Mr Ghanshyam
	Lunch Break

