Report

Capacity Building Workshop:

Harnessing Renewable Energy: Opportunities and Challenges

PIDT Loksala, Jagdishpur

28-29 March, 2011

christian aid

Jointly organized by

Samvad, Ranchi, Jharkhand

Vasudha Foundation, New Delhi

Report on

Capacity Building Workshop:

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DAY 1: 28.03.2011

The two-day capacity building workshop with 45 participants from 6 districts of Jharkhand rolled out at the PIDT Lokasala in Jagdishpur of Jharkhand on 28th March 2011. Grass-root NGOs representatives, development workers participated in this workshop which made its mark in a state that has more than half of the villages don't have access to electricity.

The Secretary of Samvad, Mr Ghanshyam welcomed the participants. 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.

He started the deliberation talking about the issue of climate change and how that has become very much relevant to livelihood of common men in even the rural areas.

Citing several examples of the impact of climate change he said, unregulated carbon emission is among the main reasons behind many natural calamities being witnessed of late. There is an urgent need to reestablish friendship the nature. Recent calamities like Japan Quake and Tsunami, deluge in Australian sent a stern message that we must stop exploiting the nature as there will always be reprisals.

If human race is integral part of the nature, then its rampant exploitation is something akin to what the famous poet, Kalidash did before he attained understanding: cutting the very branch of the tree atop which he sat.

Talking about Jharkhand state, he said, if any one stays out throughout the in coal mines area, especially around open cast mines, his family members will recognize him when he drops in, because of the intense air pollution by coal dust and carbon. Ditto near the thermal power plants where the adjacent villages are paying a heavy price for the pollution.

Even the life sustaining rivers like Subarnarekha, Damodar, Ajay, Gumani, which used to be backbone of Jharkhand livelihood are in a pitiful condition, dying a slow death. Damodar and Subarnarekha rivers have even earned shameful distinction of being two among the most polluted nine rivers in the world.

Forest cover in Jharkhand is almost gone. A recent satellite survey puts forest area in the state as only 9 per cent. Adding to woos, mining activities have gone up, eating up in the process precious forest.

Lat monsoon season, the State received only 900 mm rainfall in comparison to annual average rainfall of 1200-1400 mm. The State is struggling with drought since last three years.

This is not the case with only Jharkhand. It is happening everywhere: Jharkhand to other states to India to many developing countries. Skewed development policy and practice are to be blamed for this situation.

Many international organizations, multi-lateral bodies are now trying to arrest this problem and are in the process trying to come out with alternative. Tapping Renewable energy is one such alternative which has huge potential which can make us less dependent for our energy needs on fossil fuel as well as provide employment and safe livelihood opportunities.

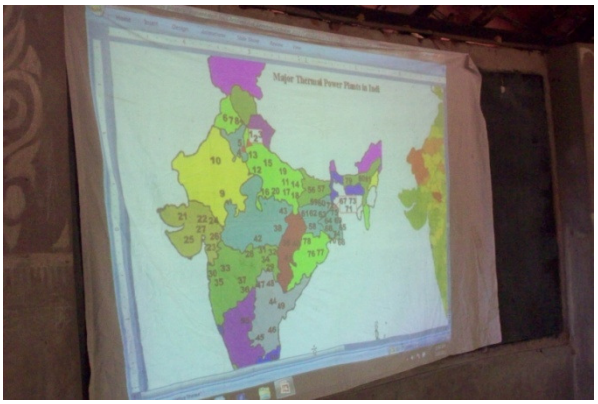
There is a need to understand the renewable energy and build our capacity and make people understand it.

Three more such capacity building workshop for NGOs and development workers and one policy workshop to sensitise the Jharkhand government to get it into action mode are in the pipeline, Mr Ghanshyam informed. Let us discuss our local problems and look for solutions through renewable energy, he said.

Let's talk about electricity

Mr. Srinivas Krishnaswamy of Vasudha foundation opened his dialogue with participants by asking them to draw their attentions to the issue of electricity availability and energy access in India.

Mr. Krishnaswamy spoke about India government's priority on development by setting up more industries, developing more and more infrastructure projects, often at the cost of environment, forest and farm lands. Citing different examples of rapid urbanization and industrialization, he spoke about the change it has brought taking a heavy toll on ecological balance, environment and livelihood.



There are still around one hundred thousand villages in India awaiting electricity. Roughly 50 percent of households in India do not have access to electricity.

The central government, year after year sets up target to provide electricity to one and all in this country. Initially from the 2005 deadline to achieve this, the target was modified to 2010, yet again reset to 2011-12 financial year.

To meet this target, the government is setting up more and more thermal power plants, which take away even more and more forest and farm lands.

Now there are more than 100 power plants operating in this country. Even then, Then there is the question of quality power supply. Then, the iron is even where more power plants are concentrated, the nearby villages remain in darkness, which means the power plant additions not necessarily help common people.

By just connecting a village or a household to power supply does not serve the purpose. In most cases, the power supply is of poor quality and is only for few hours. Take the case of Madhupur; even being a divisional headquarters, the power supply there is only for 8-10 hours.

But then, solution exists. Renewable Energy, which is clean, eco-friendly and dependable, has emerged as a big alternative. In the next two days lets us discuss about the opportunities the renewable energy offers, its sources, tapping and usage to enhance sustainable livelihood, and also the difficulties in implementing RE projects.

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

JHARKHAND IN A CAPSULE

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

Statistics from the hand book published by the Pravat Khabar, 2006

prone, starving and hopeless situation to prosperity: good harvest, enough water, energy access et al.

The film screening followed by a lively discussion 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.

“The film reflects what we are now facing at present in villages in our day to day life. It is not impossible to change the situation and carry out some of the sustainable green options, only we need to change,” said Mr. Baijanath Prasad Verma of Vikalp Kendra from Giridihi district.

“After a very long relapse, Jharkhand has just concluded the Panchayat election. The Panchayat can do a lot to solve local problems. But then, Panchayat elected members need to be sensitized, educated on what they should do,” commented Mr. Jagdish of Madhupur.

Ms. Khago Devi of Lalpur, in whose house a demo model bio-gas plant has been recently installed, said that they are successfully operating the plant and reaping benefits.

“Using renewable energy to build an eco-friendly society is the need of the hou. But then people need to join hands to make it possible. Bio-gas plants kind of renewable options has a wide ranging ramification. Besides making access to green energy possible, this will also give a boost to animal husbandry, sustainable agriculture etc,” said Mr. Ghanshyam.

The discussion was wide ranging touching all issues relevant to rural economy and livelihood.

Rural issues and RE solutions

The post lunch session started with participants speaking about local problems and looked at the renewable energy as means to solve some of these problems. One after another they talked about the problems they are encountering in their respective villages or work fields tried to figure out what kind of renewable energy solution would work best.

Ms. Binny, SHARC, Hazaribag:
We have problems of acute water scarcity. This year, even before the summer set in, ponds and wells have almost dried up. The ongoing works for four-lane road in our area has added to the woes a lot of trees have been cut.

But then, two workers from our NGO went through a solar energy and LED lamp training programme. We have set up a solar grid which now lights 40 houses. This successful experiment has tought us that renewable energy is a big and viable alternative and we look forward to have more RE projects. Bio-gas can play an important role and should be implemented widely, if not for lighting, at least for meeting the Cooking fuel needs for which women have to toil hard and long every day.

Climate change must now be recognized as a village issue. Poverty and climate change should be linked, without which all development interventions will be futile.

Ms. Anne Tudu, Dumka:
My place which is only 6-7 km away from Dumka town does not have electricity. Our children face difficulty for studying in the evening hours. There is acute water scarcity in our area and accessing ground water is difficult for us due to unavailability of power. If we had bio-gas and other forms of renewable energy to tap, we would not face these problems.

There is need to educate and build capacity of rural people to tap renewable energy which can solve many problems related to livelihood.

Mr. Zakir Hussain, Madhupur
My village has power connection, but we hardly get uninterrupted power supply. The supply is only for 3-4 hours, and we don't get supply often in the night. So, what is the use of having power connection! May be now, we should opt for renewable energy to meet our basic energy needs.

Ms. Lalita, Shristi, Madhupur

Our village is very close to Madhupur town. Even though surrounded from all sides by villages which have electricity connection, my village remains does not have electricity connection. We depend on small generators to pump water and to meet other small needs. But the cost of fuel for generator sets is high, sold in the black market, and not easily available.

Women suffer most as they have to toil everyday for long hours on getting fuel for the kitchen for cooking. We shall now motivate the them to go for bio-gas plants as the village has good bovine population. We are going to talk about the solar energy, this being the easiest means to charge mobile handsets in the villages sans power supply.

Mr. Maharaj, Devipur, Deoghar

Even 2-3 year back, the situation was not so bad. But the drought has brought much change and suffering to our life. Water level has gone down like never before, surface water is almost non-visible in our area; there are almost no agricultural activities and the farmers now face the music.

Adding to woes, the state government is now bent on setting up a thermal power plant in the area which is going to destroy 17 villages. This is typical double standard practice by the government which vows to protect villages and village livelihood, and the same time destroys these to accommodate industries.

Even the Panchyat election after a gap of 32 years is not going to help much soon as Panchayat elected representatives need time and orientation. We have power connection which of no use as we get supply only for 2-3 hours. Renewable energy is an option we need to explore fast to sustain our livelihood. Most villages have enough animals and as a first step towards RE empowerment they should start with the bio-gas plants.

Mr. Chhatradhari, Hariali Kissan Club, Deoghar

In 1995, I was involved in constructing bio-gas plants in our area and has constructed 100 bio-gas plants. Most of these are defunct now as the design available at that time could not be, in most cases, translated into full proof construction, poor management by the beneficiary. But the new portable systems readily available in the market are very good and easy to set up and manage.

But the, good management and maintenance is the key to successful tapping of bio-gas. This workshop will benefit us a lot as we are going to know everything about the renewable energy. More such programmes should be conducted in rural areas.

Mr. Banku, Madhupur
There is no problem with production in a bio-gas plant if it is managed well. I have seen even large plants running for 14-15 years without slightest glitch. The benefit from a bio-gas plant is immense and multi dimensional. The list is long.

The discussion went on and moved toward setting up community Re models. Some argued that it is very difficult to start any community initiative as the community even in a village is now so much fractured. Some argued that one needs to start somewhere with the community. Even if at the first stage, the whole village is not willing for something, then start with those few who are willing to join hands.

In any community initiative, the community needs to be involved from the conceptual stage to implementation. At villages, the most difficult part of everyday life for women comes from arranging fuel for cooking. Here, community model bio-gas plants can play a big role, as this will cut down the time spent by women on organizing cooking fuel which can be spend in some meaningful ways.

Mr. Suman Kumar, Sangram, Kodarma
Renewable energy, especially the bio-gas can bring many collateral benefits. In my place, pollution from the stone crushers has made our life worse. Adding to this is the power shortage where the supply is there, lack of electricity connection. RE can give us some relief.

Mr. Ravinder Prasad Verma, Giridihi
Not much ago, villages in Manoharpur Panchayat had everything: good harvest, lots of tree cover, teeming animal population, enough water bodies and drinking water sources. After the arrival of hundreds of small to medium industrial units producing sponge iron, tar, the situation has changed completely. This has destroyed our land and agriculture, drained our water resources. Water level has gone down drastically. Effluents from these factories have polluted everything, causing serious helth problems and more barren lands.

The time has come to turn to green ways, tap renewable energy to bring life back to the track. The administration now must be pressurized to bring back some order to the polluting industries in our area. But the, first thing is to organize the local people.

Ms. Khago Devi, Lalpur
Initially, people in my village were reluctant to join hands for a better living. But the women from the village came forward and formed a Self Help Group (SHG) by contributing fistful of rice they saved from their daily meals.

Now , we have become stronger and more resourceful, this season, we have sold two tractor loads of potato harvested from our SHG cash crop cultivation effort after keeping aside what we need to use over a period of time as reserve. Our success soon prompted the men in our village to join hands and form another SHG.

Ditto with the bio-gas, people in my village were reluctant to go for a community bio-gas plant to cater to our cooking fuel need. After the successful run of two demo model plants of which one is installed in my house, now all households are willing to go for a community model, for which the work has already started.

Screening of RE films

What are the sources of renewable energy and how do these work? How does the use of RE bring change to life of individual household as well as the community? What are the benefits? How can one go for a Re model, so on and so forth? These are the question repeatedly cropped up during the discussions. To answer all these questions 5 different capsule films on individual and community model bio-gas, wind and solar energy were shown to the participants. Each screening was followed by a question and answer session in which different aspects of that particular source of renewable energy was discussed, possibilities explored, functionalities and modalities debated, cost factor talked about and schemes available to set up that particular RE unit was highlighted.

Following this, the participants were shown solar home lighting systems and explained different components in the devices, how do these work, their benefits, etc .

The cost factor for setting up community models were compared to what the spend on generators, or pumping machines on fuel and maintenance by Mr. Krishnaswamy.

DAY 2: 29.03.2011

Field Visit

The first half of the day went towards making a field trip. Participants were taken to Lalpur village, where two bio-gas demo plants are in operation, and a community model is in the process of installation.

Lalpur, roughly 12 kms away from Madhupur, is one of the thousands of nondescript villages in Jharkhand, where around 4 years back *Judaav* started its sustainable development interventions. Once a barren village, lacking even the basic facilities for livelihood slowly made a turned around. A small stream that passes through the village boundary became a source of much needed water for agriculture after a check dam, a water storage tank and water pup house with extensive drains to carry water to the fields were put in place. Soon the village started harvesting two crops, besides all sorts of cash crops and vegetables. SHG groups were formed. Gramsabha (village council) was strengthened to harness community involvement and participation in everything related

Participants were shown the functions of a biogas plant; had firsthand experience of how it works and how it cooks. They asked many questions about the system, its costs, its operating requirements, its outputs and maintenance.

A village council meeting was convened to show the participants how the village men and women take part in the decision making. Then, the participants witnessed how the council decided on the sport where the community plant will be located. They also saw village people participating in the cleaning of that sport, marking for the plant, start the digging of pits. The participants also went to see the check dam, the pump house, interacted with the villages about their experience while these works were going on, etc.


Mr. Babulal, Chetna Vikas, Deoghar

Community measures are good when the beneficiaries are united to achieve a common goal and there are enough safeguards. Bio-gas is a good alternate measure. Those who understood its potential and maintained the plant diligently have benefitted a lot. One also gets 40% more nitrogen from the slurry of the bio-gas plant which can do wonder to the agriculture. So far, I have not seen any community bio-gas plant. One being set up in Lalpur will be an eye opener in this region. One sure way to motivate rural people to go RE!

Mr. B P Verma, Vikalp, Giridihi

Lalpur's experiments towards being self sufficiency are praiseworthy. This is successful because of people participation. The government projects fail often due to poor planning, non-involvement of beneficiaries, poor implementation and maintenance and on the top of it, the role of middle man and their involvement. But in community model where the community is involved from the beginning the success is assured. After seeing the films, hearing to elaborate discussions in this works shop and the field visit, I am sure; Renewable energy could bring wonders to our life. The government of Jharkhand must be prompted to do more about promoting RE in a big way.

Mr. Ramdev, Ambedkar Society, Madhupur

In rural set up, more than anything else fuel for cooking and lighting are two issues that needs to be tackled urgently. Tapping wind energy is costly, so also the solar energy. Biogas plants couple with solar home lighting system can change the face of rural communities.

Bio-gas plants we saw in Lalpur are small and each of these is enough to cater to the cooking fuel need of one family. But the community model will strengthen the community.

He wanted to know if both cooking gas and lighting are possible from bio-gas. He was told it is possible to have both and was explained about the whole procedure.

Lalpur experiment needs to be successful so as to be projected as a model to be replicated elsewhere. The community model should first primarily focus on providing cooking gas only.

Mr. Lakhiram, Rupabad

We had seen old style biogas plants. But the plants we saw today in Lalpur were good, potable and of better design. Putting up this kind of plants is easy. People should know about this. In power starved rural areas of Jharkhand, biogas could be boon in many ways. I learn a lot about RE which I am going to share with people in my locality and motivate then to adopt RE.

I am also impressed with the lift irrigation programme in Lalpur. Small community measures can transform rural economy and livelihood.

Mr. Janardan, Dhanbad

I am from coal mine area, where biogas would be like a boon and lessen the pollution fed burden on our local environment, strengthen our farming and animal husbandry.

Mr. Suraj Kumar Pahadia, Sahebganj

We live in mountains, on hill tops where availability of water in minimal. Now after attending this workshop, I see a ways and means to enrich our life. May be a wind mill to get water!

I saw biogas plant for the first time. Now I know we can save wood in our surrounding area and insead use the cow-dung we just throw away in biogas plants to meet our cooking energy needs. I am surely going to tell my fellow villagers to try this out.

Mr. Ravinder Prasad, Disha Samvad, Giridihi

In my area we have electricity, but for our cooking needs we could go for bio-gas.

Mr. Amrit Verma, Pragati Kendra, Giridihi

This was my first visit to Lalpur. I think, Lalpur experiment is good and will show other the path to follow. In my area bio-gas plant were there but failed. But, Model used in Lalpur success is assured because the maintenance is minimum and does not ask much effort.

Mr. Banku, Samvad, Madhupur

To get optimum result, a biogas plant should be set up closest to the house. I can see lot of potential for bio-gas plants in particular and Re in general in my village. I am going to spread the word on RE. Community model biogas plants can contribute a lot to the prosperity of a village.

Ms. Kusum Devi. Saggapahadi

I saw biogas plant for the first time. This is good for women as they are the people who spend much time and effort to get something for cooking. This education should spread. RE is good for us in many ways. I have learn a lot from these two days of interaction and will share with others.

Ms. Annie Tudu, Dumka
I saw bio-gas for the first time, though this is my third visit to Madhupur. I know this is going to save us a lot of time. We can do bio-gas and buy solar home lights to make our and our children's' life easy.

Mr. Rajkumar, Hazaribag
This workshop offered a good exposure to the potentials of RE. We should start a RE movement in our state, build public opinion and pressurize the government to put focus on the promotion of RE in Jharkhand. Biogas is a good way of tapping energy.

Mr. Jayprakash, Samvad, Madhupur
People need to develop good understanding on how to use and maintain RE units. In community model, people should have ownership and the willingness to take responsibility. This workshop made me understand RE in a much better way.

The discussion turned into how to take this forward. Participants suggested that in their respective area they would identify one or two villages to be turned into model villages where RE projects will be carried to showcase its potential

Thank you all

Mr Ghanshyam thanked all participants for their lively participation. "I hope, what we have learnt in the last two days is not going to be forgotten and wasted. All of us will go out and try to put what we learnt into practice, motivate people and build momentum,' he remarked.

The next workshop was decided to be organized in East Singhbhum district on 16-17 April, 2011.

List of participants

01. Mr. Shyamlal
52 Bigha, Madhupur, Jharkhand

02. Mr. Abrar Tabinda
52 Bigha, Madhupur, Jharkhand

03. Mr. Ramdeo Anand
Dr. Ambedkar Society
Chumbmari, Madhupur, Jharkhand

04. Mr. Rajkumar Hansda
Lalpur, Jharkhand

05. Mr. Prakash
Samvad, Madhupur, Jharkhand

06. Mr. Jagdish
Samvad, Madhupur, Jharkhand

07. Mr. Keshum
Samvad, Madhupur, Jharkhand

08. Mr. Mihir Kumar Kundi
PIDT, Jagdishpur, Jharkhand

09. Mr. Ghanshyam
Samvad, Madhupur, Jharkhand

10. Mr. Alaul Skekh
Ekta Vikash Sanghatan
Pathaljor, Jharkhand

11. Mr. Lakhiram Tudu
Rupabad, Jharkhand

12. Mr. Maharaja
Pindari, Madhupur, Jharkhand

13. Mr. Mahesh Yadav
Madhupur, Jharkhand

14. Mr. Prem Chandra Mandal
Pindari, Madhupur, Jharkhand

15. Mr. Arun Vinayak
52 Bigha, Madhupur, Jharkhand

16. Mr. Umesh Kumar
Ram Mandir Road
Deoghar

17. Mr. Sunirmal Dhar
Madhupur, Jharkhand

18. Ms. Kusum Devi
Saggapahadi, Madhupur, Jharkhand

19. Ms. Lalita
Madhuadabar, Madhupur, Jharkhand

20. Ms. Annie Tudu
Lakhikundi, Bagmara
Dumka, Jharkhand

21. Ms. Bini
Sharc
Lake, Hazaribag, Jharkhand

22. Ms. Kamala
Madhupur, Jharkhand

23. Mr. Suman Kumar Mehta
Domchand, Kodarma, Jharkhand

24. Mr. Ravinder Prasad Verma
Dishasamvad
Dandidihi, Giridihi, Jharkhand

25. Md Javed Islam
Samvad
Madhupur, Jharkhand

26. Mr. Vijay Narayan Bhagat
Jeevika Foundation
Mahuadadar, Madhupur
Jharkhand

27. Mr. Simant Sudhakar
Madhupur, Jharkhand

28. Mr. Jay Prakash Sah
Madhupur, Jharkhand

29. Mr. Babulal Kapri
Chetna Vikash
Deoghar, Jharkhand

30. Mr. Raj Kumar
c/o: Ankit Press
Near Sky Lok Hotel
Hazaribag, Jharkhand

31. Mr. Srinivas Krishnaswamy
Vasudha Foundation
New Delhi

32. Ms. Sravani Chakravarty
PIDT, Jagdishpur
Jharkhand

33. Ms. Munmun Chattopadhyay
PIDT, Jagdishpur, Jharkhand

34. Mr. Laldeo Mandal
Lalpur, Jharkhand

35. Mr. Ramdhar Mandal
Lalpur, Jharkhand

36. Mr. Vag
Lalpur, Jharkhand

37. Ms. Khuso Devi
Lalpur, Jharkhand

38. Mr. Soumya Tripathy
Vasudha Foundation
New Delhi

39. Mr. Chatdhari
Nadasimal, Madhupur, Jharkhand

40. Mr. Jakir Hussain
Pathaljor, Madhupur, Jharkhand

41. Mr. Banku
52 Bigha, Madhupur, Jharkhand

42. Mr. Devanti Bharti
Jamuwa, Giriidih, Jharkhand

43. Mr. Janardan mohato
Arpan, Teluliya 339
Mahuda Area No 2
Dhanbad, Jharkhand

44. Mr. Dasarath Prasad
Pragati Kendra
Sihodih, Sirshima
Giridihi, Jharkhand

45. Mr. Biajanath Prasad Verma
Vikalp Kendra
Bijalibathan, Motileda
Giridihi, Jharkhand

46. Mr. Golak Bihari Mohato
PIDT, Jagdishpur
Jharkhand

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Programme Schedule

Session	Topics
28th March, 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
29th March, 2011	
0945-0100	Field Visit to Lalpur to see the Bio-gas Plant
1300-1415	Lunch Break
1415- 1500	What we need to do to Implement RE Projects - Presentation of basic tool kit for common man's understanding
1500-1545	Q & A
1545-1600	Tea Break
1600-1700	Implementing RE projects: Challenges, available incentives, different schemes and funding sources
1700-1730	Q & A
1730-1745	Wrapping up by Mr Ghanshyam