



MAHILA JAGAT LIHAAZ SAMITI

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POSITIVELY IMPACTING THE EDGE OF SURVIVAL - ANNUAL REPORT 2019-20

The Mahila Jagat Lihaaz Samiti or Society for Respect for Women and Earth, also known by its acronym MAJLIS, which in turn means a collective, continued to make a positive impact on the lives of those living on the edge of survival. The thrust areas of the organisation - women's health, soil and water conservation and sustainable agriculture saw greater implementation.

1. Women's Health Programme

Possibly the most vulnerable people in India are Adivasi and Dalit women. The Adivasi and Dalit women of western Madhya Pradesh coming from economically weak backgrounds are strong contenders if their sorry health situation is taken into account. Through a few case studies, in which the names have been masked for obvious reasons, is detailed here the realities of women's health in western Madhya Pradesh and the inadequacy of the efforts of MAJLIS in the face of a dysfunctional Public Health System.

Syadi is about 35 years old and a mother of three children. She is overworked as she had to cook for the whole family which at the time this story begins consisted of her father and mother in law, husband and three children. Over and above this she had to take the cattle, buffaloes and goats for grazing, clean up the cowdung, take care of the poultry and also do the agricultural work on the farm. Consequently she frequently fell ill. She would go to the local quack in her village and get an intravenous glucose cum saline drip and a few medicines injected which perked her up for some time. However, this did not last long and so she visited the traditional Adivasi medicine men who would recite various kinds of chants to get rid of the evil spirits which they said were affecting her. Syadi's health deteriorated further as neither the quack nor the medicine men could improve her affliction. Then last year her father in law expired from a heart attack. After that the medicine men began saying that the spirit of her departed father in law had was causing her greater problems.

MAJLIS suggested to Syadi and her husband that she should be properly diagnosed by a competent doctor in Indore. However, this did not impress them and they continued to pursue the quacks and medicine men. Subsequently, a time came when Syadi became bedridden and hysterical and then her husband contacted MAJLIS. Syadi was brought to a doctor in Indore who after carrying out various tests said that there were no physical problems and she was suffering from severe anxiety, stress and depression. She was given a course of anti anxiety and anti depression drugs for three months and her husband was counselled to reduce her workload as that was the main reason for her stress. Counselling and medication improved her condition and she not only regained her health but was also able to work.

Later she reported having a urinary tract infection and white discharge resulting in severe back and waist pain. Once again she went to the quack first who obviously couldn't solve the problem. Luckily after this she immediately contacted MAJLIS instead of going to a medicine man. So she got proper treatment and recovered. This is a typical combination of patriarchal pressure and the lack of adequate and good medical facilities in rural areas that most women face that causes severe stress and anxiety.

Syadi's sister in law, the wife of her husband's younger brother, Navadi, who is thirty years old, too was not keeping well. She was pregnant with her third child. She already had a girl and a boy but wanted another boy. These days the government health apparatus has been geared towards ensuring safe motherhood for women and so when women from the economically weaker sections become pregnant they are immediately registered for pre natal care and finally institutional delivery including free transport to the hospital and back at the time of child birth. The mothers are also given monetary help through direct transfers to their bank accounts. Navadi was anaemic and so she felt weak and dizzy and could not do much work. MAJLIS then advised her to take a better diet of vegetables, proteins and berries available in the forest as she did not have enough money to buy from the market.



When her time for delivery was nigh, the doctors at the Primary Health Centre (PHC) advised her to get an ultrasound sonography done at some private centre as the facility was not there at the PHC. She got this done at a private clinic in a nearby town with her own money and then when she returned to the PHC, the doctor told her to get admitted without examining her to ascertain whether labour had started or not. The nurse then told her to walk around all the time so that the labour would start!! This was absurd and so she came back home. The labour pains started only two days later at home and by that time it was very late. The family called for the ambulance to be sent for her to be taken to the PHC. However, there is only one ambulance and it is always busy carting some pregnant woman or other to the PHC and so it did not arrive on time. Navadi gave birth to a girl child at home itself with the help of a male traditional birth attendant. It was only after that next morning that the ambulance came and took the mother and newborn to the PHC for post natal care. Both had to come back by travelling in a bus two days later as once again the ambulance was not available. The money from the Government was credited to her account three months after the

delivery. This just goes to show how callous the whole health department is towards women and safe motherhood despite all the rhetoric. The family is so poor that they did not have enough money to buy mattresses and clothes for the newborn and MAJLIS had to provide these.

Punibai is the wife of a very well known medicine man. She is close to sixty years of age and had not been keeping well for quite some time. The medicine man had failed to cure her and so she went to a quack who said she was suffering from low blood pressure and gave her medication for that along with the inevitable saline plus glucose drip and injected antibiotics. That too did not work and so she finally came to MAJLIS. Initial questioning revealed that she was actually suffering from hyper acidity and treatment for that brought her relief. However, she still felt stressed and said that she was not feeling well even though physically she did not feel pain. She was taken to the doctor in Indore who once again diagnosed her as having anxiety related stress and depression and prescribed a course of medication for three months. That improved her mental state and she was able to also work again.

Jamnabai, a thirty year old woman, with three children, who had been sterilised earlier, had problems of the urinary and reproductive tracts. She was clinically examined and treated in a reproductive health camp organised by MAJLIS. She responded well but then did not come back for further treatment when she fell ill again. Instead she went to a quack who referred her to a private hospital in Indore where she was put through a hysterectomy. Since the removal of the uterus does not solve the reproductive and urinary tract problems, she is still suffering from them.

A woman who is an active member of MAJLIS was bitten by a poisonous snake in her home. This snake had been there in her home for the past week or so eating the chicken that she was raising. Instead of killing the snake, the woman and her husband used to place incense sticks before its hole and ask it to leave!! Obviously it did not leave and one morning it bit the woman while she was giving feed to the chicken, which, were covered in a basket.

The woman raised a hue and cry and immediately her husband and neighbours came and killed the snake and then took her to a traditional medicine man. The medicine man said that he would not be able to treat her and she was rushed to the PHC in Udainagar nearby. There was no anti snake venom injection in stock in the health centre and none were available in any of the many drug stores nearby. The doctor at the health centre referred the woman to the bigger hospital in Indore. However, the woman died while in transit to Indore which is about 50 kms away.

The Udainagar area is a snake prone area and there are quite a few cases of snake bites with some of them being of lethal snakes like cobras and kraits. The MAJLIS centre in Pandutalav also has quite a few snakes which surface from time to time. In this case the woman and her husband decided not to chase the snake away and instead relied on beseeching it with incense sticks. Eventually, when the snake bit her the woman could not be saved because the people did not know the basics of first aid in case of snake bite, which involves tying a tight tourniquet above the bite to prevent the venomous blood from circulating and making an incision on the bite to suck the blood out using the anus of a chicken. Secondly the government health system and the private drug stores do not stock anti snake venom despite the area being prone to snake bite deaths. Thus, once again there is a betrayal by the modern system of the poor Adivasis. The market will obviously not provide for the Adivasis who do not have the money to pay for its services and so in the absence of proper public health services which do not cover even basic medical problems, let alone specialised ones like snake bites, the Adivasis are left to their own devices.

Thus, caught between a dysfunctional government public health system, quacks practising arbitrary and irrational medicine, traditional medicine men reciting chants to shoo away spirits and a patriarchal social structure that is apathetic to their serious health problems, women in western Madhya Pradesh are in very bad shape.

Padma is 30 years old and works as a cook. Her husband is a motorcycle mechanic and they have two daughters and a son aged between 10 and 15 years. They live in a two room apartment in a block that has been built under the Rajeev Gandhi Ashray Yojana for rehabilitating people living in slums from which they have been displaced to make way for up-scale urban development. Clinical examination during a health camp conducted by MAJLIS in her colony revealed that Padma was underweight for her height and suffered from general weakness and backache. She had severe cervical erosion from several infections of the vaginal tract and had white discharge. She was anaemic with haemoglobin level of 9.7 grams per decilitre. She was prescribed calcium, iron and protein powder to increase her strength and was given vaginal pessaries to insert to clear up the white discharge. She was also given a combination of drugs to treat her vaginal infections. Since these were very widespread and had been there for quite some time, the doctor asked her to ask her husband also to take this combination of drugs. She was also given anti-biotics.



This is where the problem began. Her husband refused to take the combination drugs to cure the vaginal infections saying that he was not ill so why should he take medication. We sat with the man and explained to him that if he did not take the drug then his genitals would continue to be infected and once again infect his wife after she was cured. He just nodded his head and went away but he refused to take the medicine. Talking to Padma we learnt that her husband came home drunk on most days and demanded sex despite her being so weak and if she protested then he would beat her up and allege that she was sleeping with some other man. This is a classic case of marital rape if ever

there was one. So there was not much improvement in her condition despite the medication. During the follow up camp the doctor said that Padma's condition had not improved and she still had severe cervical erosion which would eventually result in her having to remove her uterus unless the cervix was cauterised and she desisted from having sex for some time.

Once again we spoke to the husband but did not get any response. Then, Subhadra got angry and she told Padma that she would have to take a hard decision. Either she would waste away if she continued in the present fashion or she would have to fight her husband for her rights. Subhadra said that she would take Padma to a hospital for cauterisation of her cervix, only if she stood up to her husband and stopped sleeping with him as otherwise the whole procedure would become useless. After much hesitation Padma agreed and her teenaged daughter also asked her to take courage. She went ahead with the cauterisation and then refused to sleep with her husband for a whole month telling him that a lot of money had been spent on her and she was not going to let that go down the drain because of his lust. When he tried to beat her she said, on the strength of the information given to her by Subhadra, that she would report him to the police for violating the provisions of the Prevention of Domestic Violence Act. She has since asserted herself more and now has sex only when she feels like it. As a result she has recovered her health.

The influence of quacks and medicine men is so much that despite all the efforts of MAJLIS women still go to them thinking that intravenous drips and injections on the one hand and recitation of chants on the other will solve their problems.

2. Sustainable Agriculture Programme

Conservation of indigenous seeds is a major programme of MAJLIS. An indigenous seed collection trip was undertaken by MAJLIS down to the hills on the banks of the River Narmada in Alirajpur district in January 2020. Especially, the seed of Chikni Jowar whose flour is like that of wheat and so was traditionally used by the Bhils for making puris and laddoos. It turned out to be a wild goose chase. Its almost vanished so that one lady had a good laugh at Subhadra when she asked her whether she had any. She just could not stop laughing as if Subhadra had cracked a big joke. Subhadra had collected this seed two years earlier and grown it on the farm in Pandutalab and also sold it to others. However, the heavy rains this year killed all the plants that were sown.

Someone said that he had seen Pavlia growing this crop and so we should go there. Pavlia lives deep in the jungle cultivating forest land down in the valley where there are no roads. It was an hour's walk down the hills to his farm. Pavlia is one of the founder members of the Khedut Mazdoor Chetna Sangath (KMCS) and a doughty warrior who has made the Forest Rights Act possible through long struggles. We had not met him for over five years and we had never been to his farm as it was off the road. So we set off with his father Vangria who stays in Vakner proper. After a while the path we were walking down suddenly became a rough road that had been cut from the hills by an earth moving machine. Vangria said that the machine had come at night and dug the road and he was concerned that it might be the Forest Department trying to revive its old plan of converting the whole area into a wild life sanctuary. I told him that that has been buried completely by the Sangathan and he need not worry. This must be the Panchayat constructing a road. Anyway, once we reached Pavlia's farm the matter was cleared as Pavlia said that their whole hamlet were pooling money to build that road so as to make it connected and ease their life a little. This is the advantage of the Forest Rights Act and the Panchayat Extension to Scheduled Areas Act. Where there is a

strong people's organisation like the Khedut Mazdoor Chetna Sangath, these laws have enabled the Adivasis to control their lives in a significant way side lining the state.

What was amazing for me is that Pavlia is a living monument of all the principles that inspired the KMCS in the initial years of struggle. KMCS had posited that the jungle, land and water was the people's resources and so they would conserve them and use them with responsibility. There are villages after villages where people have done this. But Pavlia is one of the best.



Pavlia is standing on his farm in which he has grown Kadia Cotton which is an indigenous variety of cotton grown without chemical fertilisers and pesticides. He is one of the few farmers who are left still growing this cotton. Before him is a stone bund that he has erected to prevent soil erosion and water runoff. Behind him is a dense forest that he has protected from being felled. He of course had the Chikni Jowar we were looking for.

The rotavator is an agricultural appliance that is attached to a tractor and it cuts the agricultural biomass left after harvesting into tiny shreds and mixes it into the soil. It became popular initially in Punjab for cutting the rice stubble, that was otherwise being burnt, when the Government banned straw burning and provided subsidies to farmers to buy this and other machines that could provide

an alternative to straw burning. However, it costs quite a lot to run these machines as the farmers in Punjab have a lot of land. Then the wheat sown in this mulched straw does not germinate properly and so the output is less. The companies that make these machines have spread their use in the rest of the country to keep up their production in the face of falling demand in Punjab. And so these machines have reached Dewas district where the MAJLIS farm is. The Adivasis are using them with gusto after some farmers have bought these machines with the subsidy provided by the Government. They have very small farms of two or three acres at the most and so the cost of renting this machine is not much as they have to spend Rs 800 per hour and it takes an hour to mulch a one acre field. They have got round the problem of tardy germination by first sowing the wheat and gram seeds dry and then irrigating the farm. This results in very good germination and also lesser weed growth. So the Adivasis have stopped burning the agricultural waste bio mass from the Kharif season harvest and are instead mulching it into the soil.

Thus, we see that the combined power of the market and government has led to the adoption of a farming practice. The first such instance was of course the adoption of Green Revolution chemical agriculture from the 1960s onwards that has devastated farming in this country. Even though in this particular case the use of the rotavator for mulching waste agricultural biomass into the soil is a good practice and has led to benefits for the Adivasi farmers who used to burn the stubble earlier, overall the continuing support for chemical agriculture is proving to be detrimental.

This is where sustainable agriculture activists have lost out. The demand for a complete switch from chemical to organic or natural farming made by activists has not been able to sway the market and the Government. This power of the market and Government has grown continually over the years and so the effectiveness of activists has gone down with time. Indeed even among farmers' organisations there is little support for such a switch as they are mostly demanding that the subsidies for chemical agriculture and the support prices of the produce be increased. This is further brought home by a recently published book that has fifteen case studies on social enterprises trying to make profits while paying the farmers a remunerative price. None of these enterprises have succeeded in doing either and are heavily dependent on grant support to run their enterprises. It's a Catch 22 situation. Without power the activists cannot counter the market and the Government whereas the process of getting power is a corrupting one that results in those getting to power losing sight of their goals. The activists are thus doomed to remaining powerless in the time of market absolutism.

Nevertheless, MAJLIS not only pursues organic agriculture on its farm but also tries to sell the seeds and spread it among farmers. Sustainable agriculture with indigenous varieties and organic farming processes is practiced on the farm in Pandutalab which relies on mulch from the nearby forests which are being protected through communitarian fencing and regeneration efforts and composted farm residue. Subhadra sells the indigenous seeds conserved on the farm in the weekly markets that are held just before the kharif season. This has been a very successful programme. Many farmers who come to the market for seeds are able to see the indigenous seeds of Bajra, Jowar, Rala etc for the first time after many years. They buy the seeds and agree to cultivate them on a pilot basis on some part of their farm. In this way there is some amount of propagation of the seeds. She has also attended farmer's conferences organised by the Government and presented her seeds to the former Member of Parliament from Indore.



The Organic Farming Association of India holds a biennial Organic Farming Mahotsav and the latest seventh one was held in Udaipur from 29th November to 1st December 2019. Subhadra participated in this Mahotsav with the seeds and products developed by her on the experimental farm of MAJLIS in Pandutalav. Since most of these seeds and products are indigenous to the Bhil Adivasis of western Madhya Pradesh she presented her products dressed in the Bareli Adivasi style. The whole festival was an immense success and Subhadra succeeded in selling all her seeds and products in addition to popularising the agriculture of the Bhils. What is to be noted is that this whole festival was funded by organic farmers and the government unfortunately had very little presence. This is the tragedy of agriculture in this country that the Government subsidises the environmentally unsustainable and economically unviable chemical agriculture instead of the much more holistic organic/natural farming which is being carried on with great difficulty.



Subhadra also sold her seeds at the Anant Mandi which is a fortnightly market for organic produce in Bhopal. She was the only one selling the two nutritious millets rala (foxtail millet) and kodo (Paspalum scrobiculatum). However, once again very few people bought the millets. They did ask what they were and were patiently told of the benefits of eating small millets. They are not only more nutritious and tasty than wheat and rice but also require much less water to grow on the farm. But very few eventually wanted to try them out. We need to go a long way in raising awareness levels if both farmers and consumers are to benefit from organic farming. Unfortunately, the government is doing very little in this regard. There was also cherry tomato on sale. This got sold out as it is so tasty that people bought the small dishfuls and ate them with relish and a few purchased larger shares. On being asked how they

could get more, Subhadra told them that they could easily grow them on their balconies and gardens from the seeds of the tomatoes they had purchased.

Finally the MAJLIS team also conducted a workshop on sustainable agriculture with the Baiga Adivasis of Dindori in collaboration with an NGO named NIRMAL. Baigas practice sustainable agriculture by default. They do not use chemical fertilisers or high yielding varieties of hybrid seeds and neither do they use irrigation, relying completely on rainfed agriculture. Subhadra had a discussion session with the participants explaining to them how their agriculture was very important in the context of global warming. Subhadra had taken a sample of her collection of indigenous seeds to compare with the seeds that the Baigas were sowing. A young scientist employed at the Government Research Centre where the workshop was being held also saw these seeds and was impressed. He asked for some of these seeds so that he too could grow them on the farm at the centre. Subhadra told him that he could get the seeds but he would have to pay Rs 650 for them. The scientist went to ask the principal and came back and said that the principal had said that Subhadra would have to make a formal request to the Centre and then that request would be processed in due course and the payment made after that but she would have to give the seeds then and there!! Subhadra obviously refused saying that if this is the bureaucratic way the centre works then there was little hope. In fact the training programme that the centre was running for the farmers was on organic composting with the use of NADEP pits and vermi-compost pits. However, when we went to see the NADEP and vermi-compost pits we found them in disuse. This is the moribund state of the Government Agricultural research and extension programme. The employees are wasting their time and public money and doing nothing. While people like Naresh Biswas of NIRMAL, Subhadra and the Baigas who are actually doing worthwhile work in sustainable and equitable development are fending for themselves.

3. Soil and Water Conservation

MAJLIS has done considerable soil and water conservation work on the farm over the past four years and finally this year the results were there to see. The earthen dam above the farm was filled to the brim and the well below it was filled with sixty feet of water. Next to the well is a pond in which was the fast vanishing Dubraj variety of rice from Chattisgarh and its fragrance wafted in the breeze.



The major problem at the centre and also nearby areas is the lack of water. The underlying rock structure is such that the aquifer does not have much water. A bore well sunk to a depth of 130 meters yielded very little water which was just about enough to provide drinking and washing water but not enough for agriculture. Open wells nearby had some more water at lesser depths ranging from 5 to 10 meters and so it was decided to dig one. There is a local technology for digging open wells in which a motor run winch draws up the dug up mud from the well bottom. After some digging the soil gets hard and so it becomes time consuming to dig it with pick axe and shovel. Consequently dynamite has to be used to blast the hard soil. In this too a local technology is used in which a compressor mounted on a tractor is used to drive an air drill to make the holes in which the dynamite is inserted.

There was no sign of water though and so the well had to be dug to a depth of 23 meters before some water was struck. At this great depth it became dangerous to dig any further as the sides of the well were collapsing every time blasting was done. Indeed the diameter of the well had to be reduced from about 19 m depth onwards due to this danger of the sides collapsing. Eventually the digging was stopped at 23 meters depth where hard rock was struck. The important thing to note here is the variability of the water bearing aquifer in the area. Whereas within a radius of about 300 meters there were other wells which had water at about 10 meters, the well at the centre struck water at 23 meters which is a whopping 7 stories deep.

Given the low availability of water, soil conservation work was also done on the farm. The farm sits astride a drainage line that slopes away from the well. So a earthen bund and tank has been built above the well to harness the water from the water shed above it and recharge it into the ground. A pond has been built below the bund and next to the well to catch the overflow and seepage from the bund. The slope of the farm has been reversed towards the pond and the well by building a gabion retaining wall, involving the tight packing of stones in a wire mesh, at the boundary and filling it up with gravel and topping it with clayey soil from a nearby tank. In this way water availability of the farm has been increased through soil and water conservation measures.



4. Education

MAJLIS has been trying to provide education to girl children from poor families. Experience has shown that if girls from poor families are to study properly, then they must be provided hostel facilities because if they stay at home then their parents tend to make them work and so they are not able to study. Moreover, the government school system in Madhya Pradesh has now become moribund with close to zero teaching and learning. Therefore, without extra tuition it is not possible to educate girls just by sending them to a government school.

However, running hostels and schools for girls is not an easy matter. The Right to Education Act has now made it mandatory for all schools to be registered and a considerable amount of paper work has to be done continuously regardless of the quality of the actual education being imparted. Secondly due to the grievous malpractices by NGOs running girls' hostels there is also a considerable amount of monitoring of such hostels. Moreover, running a full fledged school and hostel requires good quality staff which is almost impossible to get in Adivasi areas these days. Those few from rural areas who have somehow learnt something from the dysfunctional government school system and have attained some quality have invariably migrated to cities for better livelihoods. Therefore, those that remain in rural areas know next to nothing despite having become graduates.

So it was decided to informally run a hostel with about five or six girls of class six at the Pandutalab centre of MAJLIS. The girls would be enrolled in the Government Middle School in the village and would reside at the centre and get coaching from Subhadra and I in addition to whatever they were taught at school. Once the hostel stabilised other people also could come and spend a few days and teach them whatever they were good at. The idea was that the girls would get a holistic education as they would also work on sustainable farming at the centre and understand the forest, soil, water and energy conservation work being done there. Initially, it was difficult to get these girls as both the girls and their parents were not ready. Subhadra began canvassing for girls to join the hostel from the month of April itself when the last year's session came to an end. She went around nearby villages convincing parents and talking to the girls who could be enrolled for the hostel. Once the girls were identified, she went and met the teachers of their schools to facilitate their transfer to the Government Middle School in Pandutalab.

The interaction with the teachers brought to light the sorry state of public primary education in Madhya Pradesh in tribal areas. The primary schools are mostly single or double teacher schools teaching five grades all seated together. All the children of school going age are enrolled in these schools regardless of whether they are attending regularly or not. This is because there is a strict order from the higher ups that there should not be any child out of school. Since there is a no detention policy so not only are these children marked present they are also declared passed in the examinations. Moreover, since the funds and materials for the midday meal to be given to the children are according to the attendance in the school so also all are marked present regardless of whether they are taking the meals or not. The Unified District Information System for Education, which is the online data base for the primary education system, thus paints a very rosy picture of the status of primary education. There is of course an unofficial tally of the actual attendance and the number of dropout children with the teachers but try as she might Subhadra could not get this from them as it was not to be divulged to the public.

After much effort parents of about eight girls agreed to put their girls in the hostel at Pandutalab. They were told to get the transfer certificates from the old school so that they could be admitted to the school in Pandutalab. Two girls were even put in the hostel by their parents pending the formal transfer and we began teaching them. These girls despite being in the sixth class did not know the Hindi alphabet or the numbers let alone write in Hindi and do sums. When the girls' parents went to try and get the transfer certificates they came up against a barrage of questions from the teachers as to why they wanted to shift their girls to a private hostel and the government school in Pandutalab and that such hostels are wholly unreliable and that they would be jeopardising the future of their girls. One parent did manage to get the transfer certificate but the Head Master of the Pandutalab Middle School refused to admit the girl giving him the same kind of warning that putting the girl in the private hostel would jeopardise her future. Basically no teacher wants to lose a student even if he himself is not teaching anything because it reduces the number of students for the midday meal. Also instead of trying to improve pedagogy and learning achievements in his school he is wary of private schools and hostels which reflect on his incompetence and the shoddy state of the Government School System.

This then created a difficult situation for us. The only two girls who had come to the hostel began crying given the lack of company. The increased pressure of proper studying also made them feel more home sick. The fact that the girls would not be enrolled in the school in Pandutalab also resulted in a situation wherein Subhadra and I would have to take on the full responsibility of teaching them. Since these girls would in any case remain enrolled in their village schools formally this was not much of a problem in formal terms as they could go and give the examinations there. There was also the possibility of getting these girls to give the tenth class examinations from the National Institute of Open Schooling a few years down the line as this is the first formal educational certification these days after the RTE Act's no detention provision. However, convincing the parents to follow this kind of informal arrangement became difficult as they felt that their girls might get penalised in future. Also there is a general reluctance to send girls to study away from home because there is now a spate of cases where the girls elope with other boys often of a different sub tribe of the Bhils from the one to which they belong even while studying in school. So there is a malevolent and dysfunctional public education system on the one hand and patriarchy on the other which are seriously putting girls education in jeopardy. Consequently, we have had to send the two girls who had joined the hostel back and put this project in abeyance for the time being. We will try again next year with greater preparation as we now know what we are up against.

This led us to postpone the hostel programme and instead continue with the coaching programme that had been going on for some time at the centre. Possibly one of the most difficult subjects both conceptually and mathematically in modern science is Quantum Mechanics, which plays a major role these days in Physics, Chemistry and Biology and in many cutting edge technologies. The Madhya Pradesh Board of Secondary Education, in its wisdom, has decided to include it in its syllabus for the Physical Chemistry course in Class Eleven at the higher secondary level. The treatment of the subject is at a fairly high level and there are also mathematical problems to be solved based on the various formulae. Generally the Physics and Chemistry courses have a considerable amount of mathematics in them and so the Physics course in class eleven starts off with a chapter on dimensional analysis followed by another on differential and integral calculus before going on to other subjects. And all this is in very sanskritised Hindi.

The Government High School in Pandutalab village where the MAJLIS centre is, offers the Physics, Chemistry and Biology combination to those students who want to opt for science at the higher secondary level leaving out mathematics, the syllabus for which is very difficult. However, given the preponderance of mathematics in both physics and chemistry and also to some extent in biology which has genetics in the prescribed course at the higher secondary level, the students and teachers have to contend with it. And there lies the rub.



At the coaching class that we run for students at our centre in Pandutalab, we have students from nursery to class eleven. Right from the fifth class students to those in class eleven, not a single one had any understanding of factors and multiples, fractions, decimals and basic algebra. So initially we sat all the students from class five to class eleven together and made them understand and solve problems on factors, multiples, fractions, decimals and basic algebra. After doing this for about two weeks, we then went on to other subjects thinking that their basics had been cleared. However, since nothing was being taught at school, as the teachers themselves did not know any of these and just taught mechanically from guide books without solving any problems, we found that every time there was a need to use any of this basic mathematics in solving the higher level science problems, the students would stare blankly. So once again we would have to go back to revising the basic mathematics. Thus, now it has become a routine that the first hour or two of each coaching class is spent on revising basic mathematics before we go on to some other subject!!

This brought back the original problem that we have been facing ever since we have tried to do coaching in Pandutalab. Given that very little of mathematics is being taught in the schools nearby, not just the government schools but the private ones also, the students find the rigour and hard work required in our coaching classes a bit too much and tend to bunk them or stop coming altogether!! Then we have to go and speak to their parents and try to explain to them that their children should come to our weekend coaching classes regularly and also revise what we teach them there during the rest of the week. Its a huge challenge to teach mathematics and science to these children who are all first generation Adivasi learners given the fact that even I find the sanskritised Hindi texts difficult to understand. I have to refer continually to the corresponding English texts to decipher what exactly the Hindi means to be able to explain it to the students!! The children first have to understand the problems after reading them and then set them up in mathematical terms before solving them. Its a big ask and requires a lot of hard work from them which they have never

been used to in their school previously and even now very little is being done. At present the only solution is to repeatedly do the same problems over and over again because the kids say that when they go home and go over the way the problems have been solved they can't follow the solutions.

The Annual Survey of Education Report (ASER) has been continually showing this sorry state of affairs, which is in fact deteriorating further with every passing year, with regard to school education in the country but it does not seem to have any effect on the policy makers. Millions of children are learning very little in schools, both government and private, across the country. The syllabi are made tough because a miniscule few elite children have to study at a higher level and compete to get into the top colleges in the country and abroad but this is taking a heavy toll on the rest of the children. The teachers themselves have come out of this kind of schooling and do not understand the tough texts so what will they teach. In fact the ASER should test the teachers' skills also and then it will become clear why the kids aren't learning.

5. Survival Edge Technology

Decentralised and communitarian work in soil and water conservation, sustainable agriculture, afforestation and renewable energy needs to be done extensively if the human race is to survive the deepening water, food, energy and climate crises. Moreover, since these crises most affect the poor who live on the edge of survival in rural areas, the decentralised communitarian technology required to mitigate these crises can appropriately be called Survival Edge Technology. However, implementing this is easier said than done. Primarily because of the dominant view, that work at the cutting edge of technology requiring highly centralised systems and huge investments will alone be able to address these problems, without much action to ensure community participation in the implementation of time tested and simple decentralised technologies, some of which are as old as human civilisation. MAJLIS is working in all these areas and has set up a Survival Edge Technology Centre in Pandutalav village in Dewas district of Madhya Pradesh.

Dry land and hard rock areas which are naturally water scarce and cover 70 percent of the country, require extensive soil and water conservation work needing a lot of investment that the poor living at the survival edge cannot afford even if they know the technology required for it. Unfortunately, the government is more interested in grandiose plans like linking rivers to harness flows, which are going down by the year due to massive deforestation in their catchments, rather than invest in communitarian soil and water conservation and afforestation measures to increase the recharge of water into the aquifers and increase water availability. The fatal fascination for centralised cutting edge technology rather than for survival edge technology that has been the bane of development the world over has resulted in those living on the survival edge continuing to face the increasing threats of climate change without adequate mitigation and adaptation measures.

The centre is also running on solar energy. The technology for this of course is not local and has to be sourced from outside and in this also considerable investment is required which is once again beyond the reach of the average farmer. Yet again the government has not shown much interest in promoting decentralised renewable energy despite the fact that it is running up huge losses in supplying thermal power through centralised grids in rural areas due to high transmission and distribution losses.

The problem of water scarcity has become very acute in urban areas also and so there is a need for decentralised water conservation measures in cities. To this end in the office of MAJLIS at Indore rainwater harvesting, recharge and wastewater treatment and reuse are being done so that the office is self sufficient in water. It also has both active and passive solar energy with net export of surplus renewable energy to the grid. Once again this requires considerable investment and the government is not providing enough support to these decentralised renewable energy efforts to make them more wide spread. The office also has fruit trees and vegetables are grown in the garden. The drumstick tree that dominates the office building is very popular with people living in a radius of 2 kilometers and its leaves, flowers and fruits are consumed with enthusiasm. The office is covered in creepers and has good cross ventilation so that it remains cool in summer and saves on energy required for cooling.

Thus, even though communitarian implementation of decentralised survival edge technology is the need of the hour both in rural and urban areas, there is not much progress in this direction due to governmental apathy and preoccupation with impracticable centralised solutions and it is left to lone and marginal efforts by NGOs to implement it. Anyway, the MAJLIS Survival Edge Technology Centre at Pandutalav village is now a demonstration farm and training centre on how survival edge technology can be implemented. This is going to be the focus of the future work of MAJLIS.

