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MAHILA JAGAT LIHAAZ SAMITI

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Survival in the Time of Pestilence – Annual Report of Mahila Jagat Lihaaz Samiti 2020-21

The Mahila Jagat Lihaaz Samiti (MAJLIS) is a unique organisation in that while being formally registered as a charitable society it is actually a community based organisation that addresses the issues facing its members with regard to their equitable and sustainable development through active community participation in both design and implementation of its programmes which include positing an alternative to the present unsustainable and unequitable centralised development. Over the last year the work of the organisation has been severely impacted by the spread of the COVID 19 virus which required a change in the work and also long term strategies of the work.

1. Countering the Negative Impact of the COVID 19 Pandemic

The organisation anyway works on the premise that given the ecological unsustainability of the prevailing centralised development there is bound to be a backlash from nature. This backlash is broadly visible in the spheres of global warming and water scarcity. Now it has come in the form of the COVID 19 pandemic. Therefore, the organisation responded primarily by intensifying its work in the spheres of natural resource conservation and sustainable agriculture to provide long term proofing against ecological unsustainability. Massive soil and water conservation work was undertaken in the months of April and May 2020 during the lockdown. Technology was utilised to facilitate this. The soil bunds to built on the farms of the beneficiary farmers were marked out on Google Maps and these maps were sent by Whatsapp to the beneficiaries. The beneficiaries formed teams among themselves to do the work. Once the work was done Google Maps was used to verify this and then payment was made to the beneficiaries through online banking. In this way without any physical movement in violation of the lockdown a tremendous amount of soil and water conservation work was done. This also provided much needed financial succour to the farmers who were in need of money as they were unable to sell their Rabi season crop as the agricultural markets were closed due to the lockdown.

Apart from this a major problem that cropped up was that of migrant labour in Gujarat and Maharashtra who were making their way back on foot or in the best way possible to their homes because they had run out of money to be able to continue in their work places. Our organisation is connected with many organisations in Maharashtra and Gujarat that are working with unorganised migrant labour and so we got a number of calls for assistance from these migrant workers who were stranded in Madhya Pradesh on their way back home without money. Once again technology was used to transfer money online to their bank accounts.

Finally, other organisations that we are connected with were involved in providing relief by distributing dry rations to needy people during the lockdown. Since we do not have the staff necessary for doing this kind of work, we transferred funds to these organisations so that they could provide much needed relief to poor people.

2. Reproductive Health Programme

The holding of reproductive camps for women is a flagship programme of the organisation but this could not be done due to the COVID 19 restrictions on congregation of people. Moreover, the doctors too were not keen on participating in camps for fear of contracting the virus. Under the circumstances no camps were held and only medicines were distributed to women who faced serious problems after tele-medicine with doctors.

3. Education Programme

The National Education Policy (NEP) 2019 ticks many correct boxes as far as school education is concerned but the problem as always is whether all the provisions will get implemented.

The Annual State of Education Report (ASER) has been published since 2005 based on a rigorous nationwide survey of learning in schools. In all these 15 years the learning levels have been going down continually and students are unable to solve even basic problems in reading, writing and arithmetic across both government and private schools. Mainly due to a lack of adequate numbers of properly trained teachers. Most Government schools in fact have a single teacher doing mutli-grade teaching in addition to doing various other non-teaching work. Then there is the problem of the curriculum. The curriculum has become tougher and tougher over the years further making it difficult for the teachers, who in most cases themselves do not understand what is written in the books. The language, even when it is vernacular, is highly sanskritised and incomprehensible. Less said about the teaching of English the better.

Yet in all these 15 years of the ASER surveys there has not been any attempt to improve matters. That, is why it is doubtful whether the provisions of the NEP with regard to making the curriculum more student and teacher friendly in simple versions of local languages and providing adequate numbers of properly trained teachers, will actually be implemented on the ground.

Right from the time we have through our many organisations tried to improve the school education scenario over the last four decades, we have found little effort on the part of the Government to do the same. These days with the Right to Education Act we have 100 percent enrolment in schools but learning levels are close to 0 and there seems to be little concern because the children of the elite go to good private schools and are in a class apart.

The efforts to teach children at the organisational centre in Pandutalab village have come to nought because the children run away after some time!! Since almost nothing is being taught in the nearby schools, both government and private, the children baulk at studying hard at the coaching classes we run!! So these have had to be closed down.

Given the fact that the Pandemic has closed down all schools, we started teaching the children nearby and so once again our coaching classes were started. The situation however is pathetic. Children whom we had earlier taught the basics of fractions, decimals etc had forgotten everything. Students in class 10 do not know how to do sums on fractions and those in class five can't add and subtract let alone multiply and divide. The future of this country is bleak unless we do something urgently on the ground to improve the school education scenario and not just churn out grandiose education policies. The organisation has now decided to run a residential hostel cum school for girls in the Pandutalab centre as with the second wave of COVID 19 there is little possibility of schools being allowed to open for quite some time ahead.

4. The Programme of Sustainable Agriculture

The organization has been implementing a programme of sustainable agriculture given the serious problems that beset the farm sector in this country and especially small holder Adivasi farmers. This year this programme has taken on a formal character with the aim of spreading it among the farmers.

Agriculture is a significant contributor to greenhouse gas emissions. The main sources are methane from livestock, nitrous oxide from agricultural soils, and carbon dioxide - primarily from energy and fuel use. Importantly, these emissions often also represent the loss of valuable resources from farming systems - and therefore opportunities for enhancing productivity and livelihood opportunities. The main sources of green house gases arising from modern agriculture are as follows -

1. Carbon dioxide emissions from the heavy use of gasoline-powered agricultural machinery that modern techniques require.
2. Carbon dioxide emissions from the deforestation and burning of land to convert it for intensive agriculture.
3. Loss of soil and forests as carbon sinks. Natural vegetation acts as a huge reservoir, soaking up atmospheric carbon, as does the soil. Destruction of the plants and the disruption of the soil that occurs when land is converted to agriculture decrease the available of these sinks, meaning more carbon is left in the atmosphere. Conventional farming techniques also increase soil erosion and the leaching of soil nutrients, which decrease the use of soil as a sink. Rough estimates are that man-made changes in land-use have produced a cumulative global loss of carbon from the land of about 200 thousand million tonnes.
4. The use of synthetic fertilizer releases huge amounts of N_2O – it is the single largest source of N_2O emissions in the world. The application of fertilizers accounts for 36% of the total emissions of N_2O. According to the IPCC, if fertilizer applications are doubled, N_2O emissions will double, all other factors being equal. Since regular applications of fertilizer are an integral part of modern farming, and as the developing countries adopt more of these industrialized agricultural practices, this is a realistic situation. Remembering that N_2O has over 300 times the warming potential of CO_2 and can stay in the atmosphere for about 120 years, the effect on global warming could be devastating.
5. Methane released from animals and manure piles. Manure storage and treatment systems equal 9% of total CH_4 emissions and 31% CH_4 emissions from the agricultural sector. Most of the CH_4 emissions come from the liquid-based manure management systems that are commonly found in modern livestock farms with large populations of animals.

Apart from this the indirect contributions of modern farming are even greater. The manufacture of synthetic fertilizer is one of the most intensive energy processes in the chemical industry, which itself is a primary energy user globally. Add into this the need for the fertilizer to be transported to the farmer, and we find that synthetic fertilizer is the largest producer of CO_2 emissions in the agricultural industry – even considering all the tractors and equipment belching out exhaust fumes. The use of synthetic fertilizer tends to acidify the soil, which then requires the application of lime to balance the pH; manufacture of lime also produces CO_2

emissions. Finally, synthetic fertilizers suppress the soil's natural micro-organisms that break down methane in the atmosphere, which leads to higher levels of methane than otherwise. The soil micro-organisms are largely responsible for controlling soil temperature and water run-off, production of vitamins, minerals and a host of plant hormones, not to mention that soil micro-organisms provide much of a plant's immune system so reducing their population is harmful. Thus, modern agriculture is unsustainable from the point of view of its harmful contribution to global warming.

Simultaneously economically too this modern agriculture is proving to be unsustainable. The main problem with modern artificial input agriculture is that there is a natural limit to the artificial inputs that the soil can take and so the amount of fertilisers, pesticides and water to be applied goes on increasing while the yields go on falling and sometimes the crop fails altogether. Consequently the economic costs of providing the inputs go on increasing while the realisation of the value of agricultural products in the market does not keep pace with this rise in input costs. Inevitably this leads to farmers falling into the clutches of moneylenders and becoming enmeshed in spiralling debt. Matters have been compounded by the reduction in the availability of cheap institutionalised credit and various kinds of government subsidies for fertilisers, water, diesel and electricity. The economic crisis in agriculture has now assumed serious proportions with thousands upon thousands of farmers having committed suicides, sold their lands, houses and even their kidneys.

Another problem arising from the adoption of modern agriculture has been that of the increasing scarcity of water. Most of the water needed for irrigation in India is being provided by groundwater extraction and this has led to a situation of "water mining" wherein water collected in the deep confined aquifers over hundreds of thousands of years were used up in the space of a decade and large parts of the country have been facing a ground water drought from the nineteen nineties onwards. Since then there has been less and less ground water available for not only irrigation but also for drinking and the cost of its extraction is continually going up. Big dams, however, are the environmentally and socially most harmful component of modern agriculture. The World Commission on Dams reviewing the performance of big dams brought out the fact that the benefits gained from big dam construction have been at an unacceptable and unnecessary higher cost in terms of environmental destruction and human displacement. There has been lack of equity in both the distribution of benefits and costs with the poor having lost out on both counts.

Modern agriculture drastically reduces the agricultural bio-diversity with its stress on mono-cultures. For example in the western Madhya Pradesh region there has been a reduction in the acreage under coarser cereals and pulses which have been replaced by soybean. This combined with the greater monetisation of the rural economy has forced the marginal adivasi farmers to buy their food from the market instead of getting it cheaply from their farms and this has reduced their nutritional levels well below healthy standards. Thus they too have become sufferers of the problem of chronic hunger that today engulfs the poor in much of the developing world and even in the developed countries because the shrinking of livelihood opportunities has meant that they are not able to earn enough to buy wholesome and adequate food.

Finally modern agriculture has totally reversed the control over seeds and agro-processing that women used to have traditionally. Agriculture is the discovery of

women who selected the seeds of cereals and pulses initially and found that they could be cultivated to produce a secure source of food for humans. However, men appropriated this knowledge and restricted women to domestic work. The advent of corporations producing seeds and agro-processing machinery further reduced the control that women had over seeds and agriculture.

4.1 Sustainable Agriculture as a Solution

Research has shown that organic arable production is about 35% more energy efficient, and organic dairy production about 74% more efficient per unit of output than non-organic production. Organic farming, by definition, prohibits the use of synthetic fertilizer, using instead a limited amount per hectare of organic matter and knowledge of soil biology. Since the pH of the soil is not disrupted by organic farming techniques, the use of energy–intensive lime is also minimal or non-existent; again, contributing to lower CH_4 and CO_2 emissions compared to modern external input farming techniques. The use of organic matter also increases carbon content in the soil, storing up to 75 kgs of carbon per hectare per year. Organic farming uses nitrogen-fixing plants as cover crops and during crop rotation, which help to fix nitrogen in the soil rather than releasing it into the atmosphere. And finally, organic farming techniques maintain soil micro-organisms and so help in oxidizing atmospheric methane. The combined effect of all the different benefits of organic farming produces a Global Warming Potential that is only 36% that of modern external input farming.

Thus, sustainable internal input agriculture is more energy, water and nutrient efficient and results in lower greenhouse gas emissions than modern external input agriculture per unit of crop produced which is a crucial parameter given the need for food production to feed the world's population. The schematic diagram of sustainable agriculture is shown in Figure 1 below.

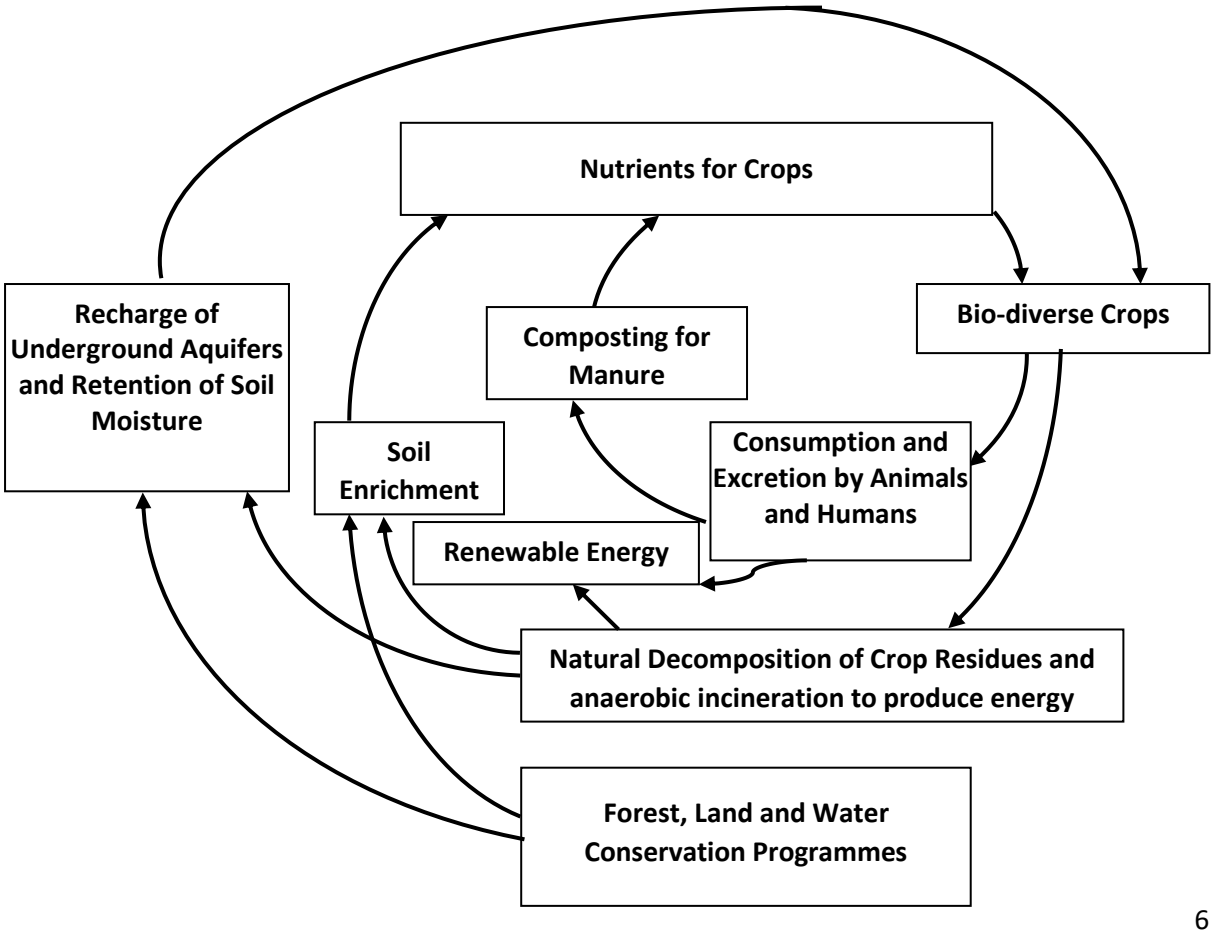

Fig.1 Schematic Diagram of Sustainable Agriculture

Simultaneously this sustainable system is labour intensive and respectful of nature and so is integrated with social and environmental wellbeing on a larger scale in a holistic manner. Most importantly it gives women the opportunity to regain control of food production. A programme of sustainable agriculture involving communitarian gender based cooperation and natural resource management will take care of the problems of livelihood creation and conservation of natural resources and by producing decentralized energy significantly reduce the need for coal fired thermal plants which are high emitters of green house gases. This will create an "economy of permanence" as outlined by the Gandhian environmental economist Kumarappa. This system respects both nature and the human being and prioritises leisurely decentralised communitarian living based on the collective local consumption and husbanding of renewable resources over the frenetic non-renewable resource guzzling pulls of globalised market led modern agriculture.

Worldwide there is a burgeoning movement in ecological farming combined with local area watershed development that has come up as a reaction to the deleterious effects of modern agriculture. This movement is theoretically underpinned by the green ideology of development in harmony with nature and at its own leisurely pace. Many localised efforts have thrown up viable solutions to the intransigent problems created by unsustainable agricultural production and the consequent increase in green house gas emissions. There have been successful localised experiments in this sphere for the development of sustainable dry-land agriculture backed up by local area watershed development involving the poor in project formulation and implementation by various NGOs.

There are also many efforts being made by individual farmers to tackle the problem of unsustainability of modern agriculture and the huge emissions of green house gases taking place due to transportation of inputs and outputs from and to cities from rural areas and also the centralized generation of electricity and its transmission to far flung areas. The farmers are making innovative switches to sustainability on their own.

4.2 The MAJLIS Sustainable Agriculture Programme

MAJLIS has initiated a programme that is comprehensively addressing all the problems of global warming, environmental and economic sustainability, livelihood and food security and land, forest and water conservation from the standpoint of agriculture, in the broadest sense, being an environment friendly and socially just lifestyle and not just a commercial profession.

Aong with the mass organisation Kansari Nu Vadavno, MAJLIS has over the past few years initiated many communitarian projects among the Bhil Adivasis in sustainable agriculture, natural resource management and decentralized renewable energy generation, which have borne fruit. Notably the Bhils traditionally use very little of external inputs and so are default organic farmers. They only need some direction to be given to them for becoming conscious sustainable agriculturists, natural resource conservationists and renewable energy producers. These efforts have been institutionalised with the setting up of a sustainable agriculture centre in Pandutalab village in Dewas district. In other words there is a need for institutionalising research and action in both the material and spiritual aspects of agriculture and natural resource management in the region so as to be able to put forward viable local solutions to the problems delineated above. Such an institution would need both extensive land and associated infrastructure of its own on which to carry out experiments in sustainable agriculture and also well developed linkages

with other NGOs, institutions and individual farmers within the region and elsewhere. The results of this research would be disseminated through a strong training and outreach programme among the farmers and policy advocacy with the government and international agencies. There will also be a marketing component which will explore the possibilities of organic certification and marketing of the produce so as to provide a firm economic basis to the alternative agricultural system that is to be developed.

4.3 The Implementation

A Sustainable Agriculture Centre (SAC) has been set up in Dewas district of Madhya Pradesh on two acres of land that has been acquired by the Mahila Jagat Lihaaz Samiti in village Pandutalav in Udainagar Tehsil. This institution will give research, implementation and advocacy support for the establishment of an environmentally, economically and socially just regional system of agriculture and natural resource management that will also address the problem of global warming. The schematic diagram of the activities of this institution and the expected outcome is given in Fig 2 below.

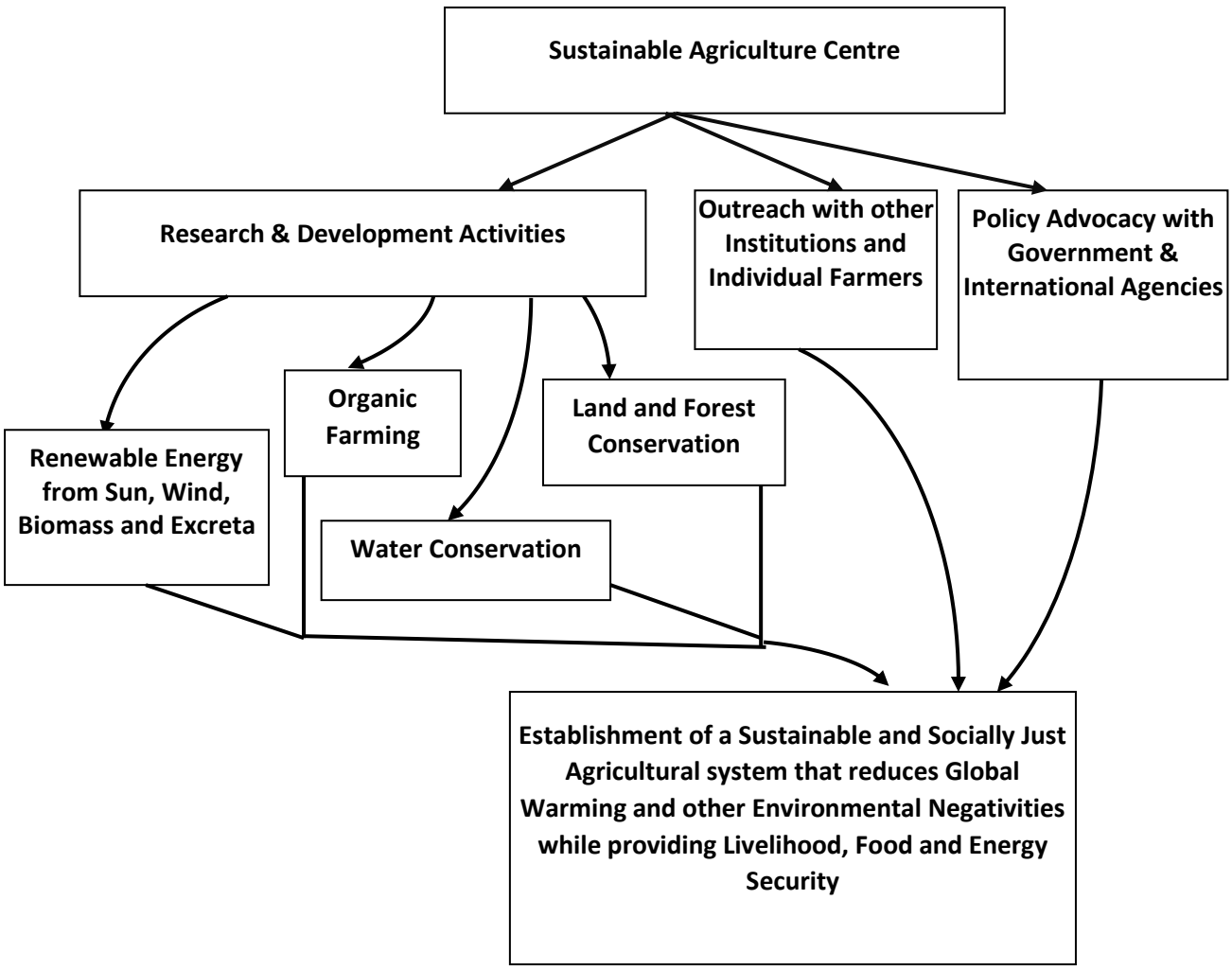

Fig.2 Schematic Diagram of Sustainable Agriculture Centre

A couple of farmers in Bisali village were motivated to switch to organic farming in the Rabi season and the first harvest of organic Lok1 Wheat is ready. A website https://kansariorganics.in/ has been set up to market this organic produce. The initial response has been quite encouraging but due to the second wave of COVID 19 the process is in abeyance. However, this is a challenging programme as both farmers and consumers are not fully convinced of the benefits of organic farming and so it will take some time to gather critical mass on both sides.

The campaign for propagation of indigenous seeds continued apace with Subhadra Khaperde attending a number of agricultural expositions to sell seeds including an important mass convention of the Adivasi Ekta Parishad in Jhabua in January 2021.

5. Future Plans

Immediately, the second wave of COVID19 has created problems for the farmers as they do not have enough finances. Therefore, the produce of the organic farming project has been purchased for distribution free to the farmers. Apart from this the soil and water conservation work has also been implemented on the farms of selected farmers. The reproductive health programme will continue to remain suspended given the COVID 19 pandemic. However, both the education and the sustainable agriculture programmes will gain in momentum.