



VERMECO

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(The Society for Earthworm Ecology & Environmental Research)

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Editorial

Organic Farming : The only way for healthier life



The goal of our life is not to live healthy and happy alone but each one of us should be healthy and happy. "*Sarve bhavantu sukhinah sarve santu niraamayaah*" should be our motive. It is only possible if we eat untoxicated, hygienic and quality food products, vegetables, fruits and swig clean water. Today our food is laced with chemicals and harmful residues of pesticides and antibiotics. Many chronic diseases are on the rise. Chemical farming is one of the major causes, although it has boosted up crop yield several times but toxicated our every food stuff.

However, we do not have any quick substitute for the farmers to replace the chemical farming and to achieve enormous crop yield to fulfill the requirement of food to such a huge Indian population of 1.27 billion. But exponential increase in the number of noncurable diseases is another problem for all of us. We have to advert on this issue very seriously.

Organic farming might be one of best alternative options. It is cheapest technology and production of organic manures needs minimal expenditure with least man power. The organic products are always toxins free.

Although organic agriculture is rapidly growing around the world (37.2 million hectare in 162 countries) with 1.8 million producers including significant number of organic farmers in developing countries like India, but wide adoption of organic farming for sustainable agriculture and human health is a challenge for which we need extensive research, extension and awareness programs for rapid transfer of organic technologies to the farmers.

Looking into such a atrocious state, the Department of Animal Science of Mahatma Jyotiba Phule Rohilkhand University, Bareilly, has recently organized a National Seminar on Organic Farming for Sustainable Agriculture (from March 10th-12th, 2014) to explore the feasibility of opting organic farming on a large scale. The article '**Sustainable Agriculture for Sustainable Economy and Democracy**' of the bulletin is the outcome of the discussion with the Chief Guest and former Vice Chancellor of the University during the Seminar and views of subject experts might help the researchers to work more for wide adoption of organic farming for healthier life.

Satyendra M. Singh

Message from the President



Agriculture and livestock are the back bone of our economy. These are considered as pillars in achieving the Green and white revolutions. Today the balance of both of them gets imbalanced. Crop yield is not as much as it should be. The soil has lost its potentiality and fertility. It is highly toxicated and diseased. The agrarian products are full of toxins. We have no option to select toxins free products. Most of us are diseased. Mechanized farming is coming up at a fast pace even in the developing countries. Domestication of livestock is sharply declining resulting less production of milk.

In such circumstances, there is no other substitute except to adopt organic farming. The regular efforts of the Department of Animal Science and the Centre for Vermiculture & Vermicomposting of the University in organizing Seminars on such important issues and extension cum awareness programs at the farmer's door must provide a helping source to them in replacing chemical farming for better health of the entire human society.

Prof. Mushahid Husain
Vice Chancellor

Mahatma Jyotiba Phule Rohilkhand University, Bareilly (India)
Former Director, Centre for Nano Science and Technology,
Jamia Millia Islamia, New Delhi

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Recently Held Activities of The Academic Forum-SEEER

The National Seminar on Organic Farming for Sustainable Agriculture (OFSA)

The Academic Forum SEEER has organized a National Seminar on Organic Farming for Sustainable Agriculture (OFSA) in association with the Department of Animal Science and the Centre for Vermiculture & Vermicomposting of the University from March 10th-12th, 2014. The Seminar was inaugurated by Former Vice Chancellors of the University, Prof. Om Prakash and Prof. Z.H. Zaidi. Dr. Mahesh Chandra, Principal Scientist & Head, Directorate of Extension Education, IVRI, Izatnagar was the Key-note speaker.

More than 50 delegates from various fields, 25 young scientists and 60 farmers had participated. Prof. G.N. Chattopadhyay (Shantiniketan, WB); Dr. AK Sannigrahi (Balasore, Odisha); Dr. S.S. Dhaka (KVK, Pilibhit); Dr. S.P. Singh, Dr. Arjun Singh Jat & Dr. Anil K. Katiyar (KVK, Ujhani, Badaun, SVBP Univ., Meerut); Dr. Shweta (Sagar, MP); Dr. Tunira Bhadauria (Raebareli, UP); Dr. A. S. Chaudhary (KVK, Bareilly); Dr. Shyam Singh (KVK, Hathras, CSA Univ., Kanpur); Dr. D.P. Singh (CARI, Izatnagar) and Shri Vijay Mishra, Progressive farmer and Vermicomposter of the region were some of the eminent speakers. The Seminar was funded by the Govt. of Uttar Pradesh.



Inaugural Ceremony - OFSA



Galaxy of Farmers - OFSA



Release of the bulletin

During the Inaugural Session of OFSA, current issue of the bulletin, VERMECO 7(1) was released by the Chief Guest and former VC, Prof. Om Prakash.

Views of the eminent subject experts in the Seminar



Dr. Mahesh Chandra - Organic farming is an emerging and evolving system. Different agencies and stakeholders have to work hard to make it sustainable for the reasons of health, environment, economy, quality of life and animal welfare.



Dr. G.N. Chattopadhyay - Vermicomposting biotechnology may be considered as an efficient tool for better resource utilization leading to increased productivity and also for reducing the application of mineral fertilizers.



Dr. A.K. Sannigrahi - Nutrients rich vermicompost can be formed from waste flowers when mixed them with cow dung in the ratio of 1:2 and by applying earthworms, *Perionyx excavatus*.



Dr. D.P. Singh - Poultry reared under the free range system is the best way of production of organic chicken with better taste, flavor and juiciness of meat along with higher amino acid contents.



Dr. S.S. Dhaka - Use of bio-agents and biopesticides/botanicals must receive priority attention to maintain the ecological balance and to manage the pests.



Dr. S.P. Singh - Organic manures from faeces and urine of buffaloes and cows have high nutrients value, very suitable to use as organic fertilizers. A cow with 300 kg body weight produces 6570 kg manure/year with nutrients contribution of 27.4:8.8:19.0 as N:P:K.



Dr. A.S. Jat - Integrated Nutrient Management (INM) produces highest rice yield (242,110 and 45 q/ha) and net return (Rs. 213500, 65080 and 20600/ha) from basmati rice-potato-reddish, okra-potato-green gram and rice-wheat cropping, respectively.

Sustainable Agriculture For Sustainable Economy and Democracy



The litmus test of agriculture being unsustainable in India is the high suicide rate of farmers. Another distinct indicator of this phenomenon is Indian agriculture being the weakest source of indigenous capital formation despite its being as vast in proportion as to employ over 60% population of this extraordinarily populous country. Everybody talks of attracting investment of foreign capital to achieve a rapid growth but nobody asks the question what is happening to indigenous capital and capital formation! The meager living that Indian agriculture affords to its poor practitioners directly working on the soil helps constitute a vast market being targeted even by MNCs with one rupee pouches of soaps, moisturizers, cheap T.V. sets, mobiles, etc., to garner big profits. Powerful industrial infiltration in agriculture is doing more harm than good by eroding the fertility of soil, disbanding cattle population, contaminating the agrarian products by excessive use of pesticide and laying dangerous traps for farmers in the form of terminator seeds and G.M. products of uncertain long term impact on human health. I am reminded of the Warren Buffetts' remark characterizing easy but tricky bank loans and mortgages as weapons of financial mass destruction. Needless to say, Indian farmers and their unsustainable agriculture is falling an easy prey to explosions of these financial nukes.

Domination of economy by capital, industry, technology and urbanization has thoroughly marginalized labor intensive agriculture self sustainably settled in the organic milieu of rural biosphere, joining man with cattle-and-plant world integrated by a mutuality of vegetative and emotional life. Things here were not connected by the monetary web of the market which is virtual rather than real and is held together by unlimited greed for profit disproportionate to social good and economic, legal and political coercion/persuasion robotizing man to the point of alienation. The organic way of life is produced by the inborn and inexhaustible fertility of nature and is situated on its lap enjoying the bounties unlike its opposite taking nature for a ride, its reckless prostitution and overexploitation.

The concept of organic farming, for example, in agriculture is intimately connected with the organic way of life integrated around agriculture from times immemorial. Not only agriculture but also life today is made unsustainable by crazy lust for power and gain unnaturally accelerated by the invasive intervention of capital, industry and technology always pumping money up to the superrich few at the top on the lame plea of trickle down economics. The whole needs to be analyzed, balanced and craze for maximizing profit be round about the social good it serves. But needless to say, sustainable agriculture on only one aspect (vermicomposting) of which the theme of the seminar of animal scientists concentrated is at the root of sustainable and stable economy, qualitative and for the people democracy. If the first is missing the rest two are bound to be unsustainable and away from its very nature and purpose. The prevailing statistical concepts and measurements, to say the least, are heavily biased in favor of industry, technology and urbanization and, above all, the head of all paraphernalia of profit maximization the superrich few owning and running the MNCs and corporates.

The contrast between good and great, being recently presented on the TV screen as ad, seeks to attribute good to happiness (khushi), confidence (itminan) and small compromise (which is belittled substitute of the great and age old values of mutuality,

cooperation and satisfaction) and the other to internal fire (andar ki aag). Indirectly it suggests that good is never great because it does not originate from the predatory and gambling impulses of man. This is the first principle of trickle down economics tending to create bubbles and their bursts speculatively destabilizing world and Indian economy for maximizing profit and production without least regard to need and constantly creating gross economic inequality minimizing fairness and opportunity in a democracy promising fairness and equality of opportunity. No longer are America and India lands of opportunities and skill and education a sure road to upward mobility. Predatory lending and selling fraudulently designed but attractive mortgages and acquiring hidden subsidies and huge bailout packages during downturns by banks and never-to-fail mega banks are reducing macro-economy into a big gamble, insecure and unsustainable proposition for more or less 99 per cent - theoretically the very strength of democracy which the so called great despise and seek to weaken and lure for profit and political cover up of their relentless design.

State as facilitator of this risky economic game plan with excessive financialization of economy seeks to rule by maximum governance bringing government (that is regulation to keep the standard of equity, justice and fairness high) to the minimum. This is increasingly making democracy another name of unfairness, injustice, and unsustainability. The whole is thus put at ransom to allow more or less one percent to live up to their predatory and gambling impulses destabilizing all orders to achieve their skyrocketing rise to power and wealth.

The point is to strike a balance between the destabilizing and stabilizing forces within man, in man-made environment and natural environment, in trickle down economics and trickle up economics and democracy for demos and democracy for anti-demos. The key to this imperative balancing probably lies in recognizing agriculture as the continent of stability on the shores of which the waves and tides of turbulent ocean constituted by those fired with inner fire of predatory and gambling impulses are beating. Agriculture and agrarian mode of life should be given independent status with a different infrastructure by, self sufficient power generation and water supply units, and house and settlement design suited to their need. Reducing them to mere residue of urban progress and development ultimately to be abandoned like a dilapidated old house of humanity is perhaps the grossest error of perception and the greatest source of unsustainability. The theory of evolution by natural selection and survival of fittest on which the present perception of formation of industry by outgrowing agriculture, of cities by outgrowing villages and of rich by outgrowing the poor, of science by outgrowing arts is based is absolutely pernicious. The earlier it is abandoned the better. The alternative model is to be carefully thought over and designed afresh rather than derived from the prevailing social and economic Darwinism.

State and people together have a singular role to play to translate this alternative into action in order to prove true to democracy as the ideal form of government. For this it has to come out of the two ruts: one facilitating the dream of the superrich to take the state and the people for a ride in order to make economic coercion in their hands as absolute as sovereignty and, the other, regulating all private economic ventures to virtual strangulation by political and bureaucratic corruption or national, cultural or socialist absolutism in the name of exercising strict government.

Prof. Om Prakash - An Eminent Historian and Former Vice Chancellor, Mahatma Jyotiba Phule Rohilkhand University, Bareilly

Views of Eminent Scholars on Organic Farming

Prof. Radha D. Kale



Due to use of excessive fertilizers there is loss of organic carbon levels in soil. This has finally led to adverse effect on the physical characteristics of the soil and in its biological properties. These drastic changes in agricultural lands and in agricultural production have resulted in looking back to the practices that were supporting the agriculture in earlier days.

Chemical agriculture is a heavy burden on the exchequer as it involves importing of raw materials or the final products. The cost of production of the necessary chemicals like fertilizers and pesticides is escalating year after year. The consumption of these chemicals for protection of crops from vagaries of pest and pathogen attacks is showing an increasing trend. Excessive dependency on chemical agriculture is making it a non profitable, unsustainable activity. This was the country which was proud to state that agriculture was the main occupation of more than 80 per cent of the population but now the same population has become secondary citizens as they have lost confidence in themselves.

Unorganized growth of cities and exploding population is creating the problems for food, shelter and clean environment for the new migrants to the cities. The job opportunities are not sufficient to support the migrants to suit to their abilities. So they have to be satisfied with the available mealy jobs. This is another major imbalance created by the advent to chemical agriculture.

It is the time to make use of the traditional knowledge along with the scientific approach in the farming system to improve the quality of the manures, bio-control mechanisms to manage pests and diseases and finally adopting growing of companion crops, multiple cropping pattern and rotation of crops in the available agriculture lands. Proper training to develop confidence in the minds of farmers is essential. It is very much needed to show them that the way the old roots and new leaves add to the beauty and health of a plant, the traditional knowledge with scientific approach contributes to their well being. An approach to organic farming is the final answer for healthy mind and healthy body. This is the only approach to save the environment and sustainable development.

Eminent Earthworm Biologist & Former Head, Department of Zoology, University of Agricultural Sciences (GKVK Campus) Bengaluru.

Prof. Mohd. Muzammil



The whole concept of organic agriculture is based on environment friendly agriculture which does not use chemical fertilizers and pesticides as crop saving solutions. It is a return to natural agriculture. All out efforts for food grains since 1960s were made inter alia through widespread use of chemical fertilizers and crop saving methods to increase production which surely gave more output but in turn led to deterioration in the quality and productivity of resources and the value of crops. Chemical use based agriculture created environmental pollution and soil degradation of various types. Green technology applied to conventional agriculture will lead to widespread adoption of organic agriculture by the farmer's community in general. Adequate and timely provision of inputs and awareness campaigns are needed to make it popular amongst the prospective users.

Eminent Economist & Former Vice Chancellor of Mahatma Jyotiba Phule Rohilkhand University, Bareilly and Vice Chancellor of Dr. BR Ambedkar University, Agra (U.P.), India

Indian Earthworm Biologist-6 Prof. G.N. Chattopadhyay (b.1947)



Dr. Chattopadhyay- a former Professor of Soil Science at the Institute of Agriculture, Visva- Bharati University, Shantiniketan (West Bengal) did BSc (Ag) Hons and MSc (Ag) in Agricultural Chemistry and Soil Science from the University of Kalyani and PhD from Bidhan Chandra Krishi Viswavidyalaya.

He worked mainly on Natural Resource Management through recycling of waste materials through vermicomposting and use of bio- fertilizers, reconciliation of soil health in agriculture and developed site specific nutrient management programmes for the red and lateritic soils and disseminated information to the farmers for more than 40 years. Besides, he was associated with research, development and teaching activities at Central Inland Fisheries Research Institute (ICAR) and carried out studies on recycling of organic wastes for Pisciculture.

Dr. Chattopadhyay supervised two research projects on recycling of fly ash through vermicomposting sponsored by W. B. Pollution Control Board and DST, Govt. of India and ten National & Corporate and six International research projects and eighteen PhD students. He published more than 80 research articles in various reputed journals.

He bestowed for Review of the Year Award from International Centre for Living Aquatic Resources Management, Philippines in 1984 and was Fellow of Institute of Chemists, India in 1988 and Inland Fisheries Society of India in 1999. Also served as member of Research Advisory Committee of CIFA (ICAR), Core Committee for Bio-Technology of Khadi and Village Industries Commission, State Fertilizer Recommendation Committee, State Agriculture Commission Sub-Committee and Environmental Monitoring Committee of Bakreswar Thermal Power Plant. He also worked as Honorary Advisor of Department of Agriculture, Govt. of West Bengal and Advisor to Agricultural Finance Corporation and Academic Council of Uttar Banga Krishi Viswavidyalaya. He was Chairman, CAS Committee, CIFRI, NBSS & LUP (ICAR).

Presently associated with Krishi Rasayan- an Industrial House, as Technical Adviser and looking after soil health management programmes. Reviewer of reputed International journals published by Springer, Elsevier etc., R&D Projects of ICAR, DBT, DST, SRTI.

READER'S OPINION IS SOLICITED

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