

Magazine on Low External Input Sustainable Agriculture



LEIS INDIA



Youth in farming



March 2011 Volume 13 no. 1

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COVER PHOTO

Enthusiastic youth in Raichur participating in farm activities.

Photo: S Jayaraj

The AgriCultures Network

ILEIA is a member of the AgriCultures Network (<http://www.theagriculturesnetwork.org>). Farming Matters is published quarterly by ILEIA. Eight organizations of the AgriCultures Network that provide information on small-scale, sustainable agriculture worldwide, and publish are:

LEISA Revista de Agroecología (Latin America),
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LEISA China (China) and
Kilimo Endelevu Africa (East Africa, in English).

The editors have taken every care to ensure that the contents of this magazine are as accurate as possible. The authors have ultimate responsibility, however, for the content of individual articles.

The editors encourage readers to photocopy and circulate magazine articles.

Dear Readers

The growth in terms of rural youth proportion is being viewed through different lenses – as an opportunity, as a challenge. At the same time, the food and ecological crisis looming large worldwide is widening the complexity. The well known perspective has been to somehow absorb them into technology intensive sectors or urban service sector. Also, the most heard argument is that the youth are not interested in farming, they would like to migrate and enjoy urban amenities etc. While the choice is what they make for themselves, it does appear in debates that the effort is to highlight that they have no choice but to migrate.

We would like to share some experiences which highlight how youth remaining in rural areas build on what they have and know, be recognized and respected. Also, how the youth are getting interested in not only farming but also interested in serving rural communities. The experiences also illustrate that they need not radically learn new skills, creating a 'disconnect', but if guided and motivated, could also tone up their leadership and entrepreneurial skills.

In this issue, we have included experiences which address some of these issues. The type of educational processes which enable them to enjoy learning as well as sharing their learnings, inspirational examples of rural educated youth on what motivates them to remain in farming etc. Also, included are visionary views and perspectives of Dr. M S Swaminathan on what needs to be done.

You must have observed that this issue is the first issue of 2011. We could not bring out the December 2010 issue of LEISA India on the theme "Partnerships in Learning" owing to some unavoidable reasons. We regret the same.

Many of our readers are contributing voluntarily and we thank them for their support. We would like to inform you that the contributions made to LEISA India are exempted under 80CC of Income Tax regulations. Kindly avail this opportunity and donate generously.

The Editors

LEISA is about Low-External-Input and Sustainable Agriculture. It is about the technical and social options open to farmers who seek to improve productivity and income in an ecologically sound way. LEISA is about the optimal use of local resources and natural processes and, if necessary, the safe and efficient use of external inputs. It is about the empowerment of male and female farmers and the communities who seek to build their future on the bases of their own knowledge, skills, values, culture and institutions. LEISA is also about participatory methodologies to strengthen the capacity of farmers and other actors, to improve agriculture and adapt it to changing needs and conditions. LEISA seeks to combine indigenous and scientific knowledge and to influence policy formulation to create a conducive environment for its further development. LEISA is a concept, an approach and a political message.

AME Foundation promotes sustainable livelihoods through combining indigenous knowledge and innovative technologies for Low-External-Input natural resource management. Towards this objective, AME Foundation works with small and marginal farmers in the Deccan Plateau region by generating farming alternatives, enriching the knowledge base, training, linking development agencies and sharing experience.

AMEF is working closely with interested groups of farmers in clusters of villages, to enable them to generate and adopt alternative farming practices. These locations with enhanced visibility are utilised as learning situations for practitioners and promoters of eco-farming systems, which includes NGOs and NGO networks.

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ILEIA - the Centre for Learning on sustainable agriculture and the secretariat of the global AgriCultures network promotes exchange of information for small-scale farmers in the South through identifying promising technologies involving no or only marginal external inputs, but building on local knowledge and traditional technologies and the involvement of the farmers themselves in development. Information about these technologies is exchanged mainly through Farming Matters magazine (<http://ileia.leisa.info/>).

Nature as a teacher

Paul ter Weel

With little investment but conducive conditions, a bias against agriculture, an indifference vis a vis nature can easily be transformed into a positive and inquisitive attitude of learning and discovering and loving nature. This is what the field school of the Community School for children on Kaliget Organic Farm proves.

Meeting a region's broad development needs

Francesca Dalla Valle and Peter Wobst

The Food and Agriculture Organization of the United Nations, FAO, works to raise levels of nutrition, improve agricultural productivity and the lives of rural populations, and to contribute to the growth of the world economy. The Gender, Equity and Rural Employment Division (ESW) supports FAO's efforts to promote the economic and social well-being of the rural poor. To address the specific challenges faced by youth, this division initiated and has been following the Junior Farmer Field and Life Schools (JFFLS) approach since 2004. As seen in Palestine, the results can have a broad impact.



Learning from farm, learning to farm

Nandish

Farming like any profession requires dedication, understanding, constant learning and application of new ideas and above all a desire to view it as a part of the greater ecosystem. Here is a case of a young farmer who has nurtured his farm with utmost care and sensitivity to the environment.

Building social capital by investing in rural youth

B V Joshi and K V S Prasad

Youth provided with appropriate training and opportunities, have the capacity to engage in activities that bring both economic and social benefits. Building human resources is an investment that can reap rich dividends. AMEF with its focus on rural youth shows the way.



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Youth in farming

Today around 25% of rural population in India are between ages 15 and 29 (2001 Census). The Tenth Five-Year Plan (2002-2007) has estimated that India's labour force will increase faster than the ability of the economy to create new working opportunities. The country is adding 2 million young people to the ranks of the unemployed every year. The Plan document estimates that open unemployment could be as high as 5% at the end of the Tenth Plan period, from 2.8% at present. This is likely to entail tremendous costs, including social unrest and dislocation. The result is that a large number of youth are unemployed or underemployed.

In India and in many developing countries the majority of the work force is employed in agriculture. However, stagnating agricultural productivity and rural environmental degradation have made agriculture a last option. As the environment on which their livelihoods depend becomes more and more degraded, rural youth face diminished prospects of employment. Not only do these youth lack income, they lack a means of gaining respect and a sense of belonging in their communities. Unable to find decent employment, youth often look for employment in the urban informal sector, with poor working conditions and pay. But without training in skills suited to the urban labour market, these youth have few opportunities in urban areas. Inadequately trained to compete successfully in urban labour markets, they often suffer worse levels of poverty and marginalization in towns than in rural areas.

A key to surmounting rural poverty is to revitalize agriculture. The challenge for agriculture is to provide gainful employment and better incomes for people as well as meet growing demands for food, also in a way which does not do more damage to rural ecosystems. This issue brings out examples and initiatives of efforts of youth, as well as those working and inspiring youth.

Preparing young people

While a majority of the population in India continue to live on farming, yet farming has hardly received attention in the present educational system. Even the rural children are hardly exposed to what is basic to their lives. However, a few institutions are making efforts to fill this knowledge gap. For instance, Puvudham, a Learning Center in Tamil Nadu is providing life education to tribal children where farming is treated as a very important activity emphasizing its importance in the overall picture of life. Children in this school learn by doing. Learning farming is fun to these children where they mark their plot of land to grow plants, they measure the plot, draw it to scale, design the rows, decide what they want to plant, and calculate the quantity of seed they will need. They mulch, water and watch their plants grow (Meenakshi, p. 15).

Not only rural children, efforts are made to help urban children understand the importance and nuances of farming. The Field School in Kaliget Organic Farm in Indonesia has proved that with

little investment but conducive conditions, a bias against agriculture, an indifference vis a vis nature can easily be transformed into a positive and inquisitive attitude of learning, discovering and loving nature. (Paul ter Weel, p. 13)

Education and training for change

With little education and lack of opportunities within and outside farming, majority of the rural youth do not know what to do for earning their livelihoods. Traditional wisdom is neither easily available nor accessible. On the other hand, the youth also see high risk, high input agriculture being practiced with unpredictable returns. They have been observing their parents, following conventional farming, toiling hard on the farms, hardly making a decent living. *For young people to take to agriculture, farming must be both intellectually satisfying and economically rewarding*, says M S Swaminathan. And this can happen only when the way farming is done is changed. Ecological farming based on nurturing and nourishing the natural resources is highly sustainable and rewarding. It is important that the youth are exposed to this wonderful world of ecological farming. But this requires investment in terms of building awareness, knowledge, skills and capacities. Training and human resource development is crucial in bringing young people into sustainable farming.

Baduku, a unique college offers courses on "alternative livelihoods" where an attempt is made to carve out meaningful livelihoods that address key social and ecological challenges of our times (Manjunath, p. 8). Young farmers are taken through a season-long process educating and training them on the concept and practice of sustainable agriculture.

Rural youth have not only the potential to make agriculture sustainable but are also assets in the rural communities. With proper guidance, they can lead communities towards achieving local food security. Towards achieving this, AME Foundation has been training and guiding rural youth in the villages to serve as Sustainable Agriculture Promoters in promoting eco-friendly practices. The rural youth trained through season long FFS not only become better farmers but also better farm guides enabling sustainability of the change processes (p. 34).

Promoting entrepreneurship is yet another way of helping rural youth to make a living in rural areas. According to The World Youth Report, 2011, at least 20 per cent of unemployed youth worldwide have the potential to become entrepreneurs, but less than 5 per cent do so. A supportive environment that creates conditions for entrepreneurship needs to be developed. Several institutions are making efforts towards this end. For instance, RUDSETI, a training organization sets out to train a large number of rural youth across various places in India. Today, these young farmers have not only proved that farming could be a very remunerative business but also have shown a way to the other unemployed youth that villages are the place their future lies in (Ravi Prakash, p. 11).



Innovative young farmers

While many young farmers are disillusioned with farming as a livelihood choice, we can also find a number of young farmers who are motivated to be in farming. These are the ones who see farming as a passion, and get involved deeply, continuously learning and innovating. Nandish (p. 20) a young farmer in Karnataka describes a farm in one sentence. He says **“Farm is a place where you feel all your senses”**. An ideal farm is that where you feel cool air, can sense the aroma of soil, flowers, fruits; can see colorful creatures; can taste variety of vegetables and fruits, and hear the sounds of bees, birds, animals as in the forest. To achieve this he says that one should farm with a lot of understanding and have a desire to live with other living beings.

Not only rural youth, we also see many educated youth going back to farming with passion. Mr. Aravindan an MBA by qualification is a role model for many young farmers in Kovil veerakudi village

and surrounding areas (p. 25). Another example is that of Anurag and Sujata Goel who walked away from promising careers in lab research and urban living to live a more organic way of life.(p. 22)

More and more young educated people are finding their own ways to get back to nature. For instance the young graduates of Agricultural University in Pantnagar through Vivekanand Swadhyay Mandal are being moulded into development agents to bring about a change in the agriculture scenario as change agents. This model based on ethics and social values is helping shape the lives of many young people making them socially responsible, professionally sharp and nationally proud (Keswani, Upreti and Papnai, p. 26).

Moving forward and making a difference

Youth are the present and the future of nations. A well educated and trained population gives a country enormous potential for economic and social development. It is important that youth are both viewed as an investment opportunity and are treated as partners in the development process. Direct investment in rural youth is required. A direct approach involves measures that focus on improving the quality of life and productivity of rural small holders and landless young men and women.

The ultimate goal of any development programme is to improve quality of life, and this can be achieved only when people are self-reliant and self-motivated. Youth who are well-organised, provided with appropriate training, opportunities and incentives, have the capacity to engage in enterprises that bring both economic and social benefits. Rural institutions at the grassroots level need to be strengthened. Youth should be part of designing and implementing programmes that bring benefit to the entire rural community.

Themes for LEISA India

Vol. 13 No. 2, June 2011
Trees and farming

Trees are important to farming as they complement agriculture production by improving soil fertility and sustaining land productivity. Trees provide subsistence products like fruits, fodder and fuel and are therefore important for people particularly living in hilly regions. As natural vegetation and forests are cleared for agriculture and other types of development, the benefits that trees provide are best sustained by integrating them into agriculturally productive landscapes. Of late the concept of integrating fertilizer trees into farm systems, has been shown to have the potential to double crop yields. Yet it is not always easy for farmers to adopt such an approach. In this issue of LEISA India, we plan to look at the actual and potential benefits of agroforestry and at how to maximize these.

At the same time, we shall also consider the wider context, and explore the relationships between small-scale farmers and trees and forested areas in a changing world. REDD (Reduced Emissions from Deforestation and Forest Degradation) projects, for example, are currently being presented by some as an effective way of stopping deforestation and paying the local population for the services provided by their forests. Yet, critics say these mechanisms are a means for rich countries to get away their obligations to reduce greenhouse gas emissions. Payment for Ecosystems Services (PES) is another mechanism used to reward farmers for providing environmental services. Here too, there are different views and experiences about their effectiveness and fairness. How can small-scale farmers benefit from them or do such schemes imply losing control over their resource base?

*Please send your articles to the Editor at
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Deadline for submission of articles - 30 April, 2011

Youth as catalysts of accelerated agricultural and rural development

M S Swaminathan

Opportunities for rural youth entrepreneurs are several. If educated youth choose to live in villages and launch the new agriculture movement, based on the integrated application of science and social wisdom, our untapped demographic dividend will become our greatest strength.



Call upon the youth in this country to follow the Gandhian principle of giving the greatest importance and respect to farmers and farming. While visiting the National Dairy Research Institute, Bangalore, on 27 June, 1927 Mahatma Gandhi wrote in the Visitors' Book "Farmer" against the column titled "occupation". He also used to emphasise that Gram Swaraj is the pathway to Poorna Swaraj. Lal Bahadur Shastri later gave the slogan "Jai Jawan, Jai Kisan" to stress that Jawans and Kisans are the two pillars of our freedom. The extreme volatility of the price of food grains in the international market emphasizes that the future belongs to nations with grains and not guns.

For young people to take to agriculture, farming must be both intellectually satisfying and economically rewarding. This will call for a technological and managerial upgradation of farm operations. We have to harness the best in frontier science and marry it with the best in traditional knowledge and ecological prudence. Such a blend leads to the science of ecotechnology. In addition to ecotechnology, Universities have to develop excellence in biotechnology, space technology, nuclear technology, nanotechnology, renewable energy and management technology. The Universities in India should enable every scholar to become an entrepreneur. I would like to share some thoughts on launching a Youth for Agricultural Transformation Movement.

During his recent visit to India, US President Barack Obama pointed out that India is fortunate to have over half of its total population of 1.2 billion under the age of 30. Out of the 600 million young persons, over 60 per cent live in villages. Most of them are educated. Mahatma Gandhi considered the migration of educated youth from villages to towns and cities as the most serious form of brain drain adversely affecting rural India's development. He, therefore, stressed that we should take steps to end the divorce between intellect and labour in rural professions.

The National Commission on Farmers stressed the need for attracting and retaining educated youth in farming. The National Policy for Farmers, placed in Parliament in November 2007, includes the following goal- "to introduce measures which can help to attract and retain youth in farming and processing of farm products for higher value addition, by making farming intellectually stimulating and economically rewarding". At present, we are deriving very little demographic dividend in agriculture. On the other hand, the pressure of population on land is increasing and the average size of a farm holding is going down to below one hectare. Farmers are getting indebted and the temptation to sell prime farmland for non-farm purposes is growing. Over 45 per cent of farmers interviewed by the National Sample Survey Organisation wanted to quit farming. Under these conditions, how are we going to persuade educated youth, including farm graduates, to stay in villages and take to agriculture as a profession? How can youth earn a decent living in villages and help shape the future of our agriculture? This will require a three-pronged strategy.

- Improve the productivity and profitability of small holdings through appropriate land use policies, technologies and market linkages; develop for this purpose a "4C approach", i.e., Conservation, Cultivation, Consumption and Commerce.
- Enlarge the scope for the growth of agro-processing, agro-industries and agribusiness and establish a "Farm to Home" chain in production, processing and marketing.
- Promote opportunities for the services sector to expand in a manner that will trigger the technological and economic upgradation of farm operations.

Some years ago, the Government of India launched a programme to enable farm graduates to start agri-clinics and agri-business centres. This programme is yet to attract the interest of educated

youth to the degree originally expected. It is hence time that the programme is restructured based on the lessons learnt. Ideally, a group of four to five farm graduates, who have specialised in agriculture, animal husbandry, fisheries, agribusiness and home science, could jointly launch an agri-clinic-cum-agri-business centre in every block of the State. Agri-clinics will provide the services needed during the production phase of farming, while the agri-business centre will cater to the needs of farm families during the post-harvest phase of agriculture. Thus, farm women and men can be assisted during the entire crop cycle, starting with sowing and extending up to value addition and marketing. The multi-disciplinary expertise available within the group of young entrepreneurs will help them, to serve farm families in a holistic manner. The home science graduate can pay particular attention to nutrition and food safety and processing and help a group of farm women to start a food processing park. The group should also assist farm families to achieve economy and power of scale, both during the production and post-harvest phases of farming, such an integrated centre can be named “Agricultural Transformation Centre”.

Opportunities for young entrepreneurs are several. Climate resilient agriculture is another area that needs attention. In dry farming areas, methods of rainwater harvesting and storage, aquifer recharge and watershed management as well as the improvement of soil physics, chemistry and microbiology, need to be spread widely. The cultivation of fertiliser trees which can enrich soil fertility and help to improve soil carbon sequestration and storage can be promoted under the Green India Mission as well as the Mahatma Gandhi National Rural Employment Guarantee programme. A few fertiliser trees, a *jal kund* (water harvesting pond) and a biogas plant in every farm will help to improve enormously the productivity and profitability of dryland farming. In addition, they will contribute to climate change mitigation.

For young people to take to agriculture, farming must be both intellectually satisfying and economically rewarding.

The “*yuva kisans*” or young farmers can also help women’s self-help groups to manufacture and sell the biological software essential for sustainable agriculture. These will include biofertilisers, biopesticides and vermiculture. The Fisheries graduate can promote both inland and marine aquaculture, using low external input sustainable aquaculture (LEISA) techniques. Feed and seed are the important requirements for successful aquaculture and trained youth can promote their production at the local level. They can train rural families in induced breeding of fish and spread quality and food safety literacy.

Similar opportunities exist in the fields of animal husbandry. Improved technologies of small-scale poultry and dairy farming can be introduced. Codex alimentarius standards of food safety can be popularised in the case of perishable commodities. For this

purpose, the young farmers should establish *Gyan Chaupals* or Village Knowledge Centres. Such centres will be based on the integrated use of the internet, FM Radio and mobile telephony.

In the services sector designed to meet the demand driven needs of farming families, an important one is soil and water quality testing. Young farmers can organise mobile soil cum water quality testing work and go from village to village in the area of their operation and issue a Farm Health Passbook to every family. Farm Health Passbook will contain information on soil health, water quality, and crop and animal diseases, so that the farm family has access to integrated information on all aspects of Farm Health. Very effective and reliable soil and water quality testing kits are now available. This will help rural families to utilise in an effective manner the nutrient based subsidy introduced by the government from April 1, 2010. Similarly, young educated youth could help rural communities to organise gene-seed-grain-water banks, thereby linking conservation, cultivation, consumption and commerce in a mutually reinforcing manner:

Young farmers can also operate climate risk management centres, which will help farmers to maximise the benefits of a good monsoon and minimise the adverse impact of unfavourable weather. Educated youth can help to introduce the benefits of information, space, nuclear, bio- and eco-technologies. Ecotechnology involves the blend of traditional wisdom and frontier technology. This is the pathway to sustainable agriculture and food security, as well as agrarian prosperity. If educated youth choose to live in villages and launch the new agriculture movement, based on the integrated application of science and social wisdom, our untapped demographic dividend will become our greatest strength.

(Excerpts from the paper presented in *Inter-disciplinary Dialogue on Reaping the Demographic Dividend in agriculture and Rural Development*”, February 19-21, 2011, M S Swaminathan Research Foundation, Chennai.)

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Life-skills and livelihoods college for the young farmers

Manjunath H

Young people from farming families are opting out of agriculture, perceiving farming as drudgery and unremunerative. Baduku addressed this issue by helping these young farmers realize agriculture as a sustainable livelihood option and building their capacities in sustainable farming methods.



Degradation of agricultural land, un-sustainable use of water, irresponsible uses of toxic chemicals, ecologically damaging tourism and energy intensive production are all leading to climate change as well as distress and destitution for farmers, artisans, indigenous communities and unorganized workers. The need for environmentally sound livelihood systems poses multi dimensional challenges. Baduku (which means Survival or Life) is a small step in exploring possible solutions.

Baduku, a Life-Skills and Livelihoods College is promoted by Samvada an organization with a 21-year history of working with youth. The College is the result of a two year process of discussion in response to the social exclusions and economic marginalization that young people, especially dalit youth, are facing in the peri-urban region around Bangalore. Through this initiative, we help build sustainable livelihoods and enterprises which have a scope to address emerging ecological and societal issues through alternative technologies and pedagogies.

Baduku is an attempt to carve out meaningful livelihoods that address key social and ecological challenges of our times. For young people, Baduku College offers a way to combine their activism with creative and remunerative work. This unique college offers courses on “alternate livelihoods” where alternative technologies/perspectives are used to build sustainable livelihoods. Over the last three years we have designed and completed courses in Sustainable agriculture, Urban Rain Water Harvesting Solutions, Education for Social Change (for college teachers) and Child Care Management.

Course on Sustainable agriculture

Farming is increasingly seen by young people as a drudgery which gets no respect. As a result, young people from farming

families are opting out of agriculture and some small farmers are even leasing out their lands to large land holders. Our courses in Sustainable agriculture present young farmers with a whole new approach to farming based on Masanobu Fukuoka's philosophy on sustainable living. This course is a response to the crisis faced by farmers caught between high prices of inputs, vagaries of monsoons, deteriorating soil and unstable markets.

We started this course during 2008-09. The 30-day intensive training programme also equips them with skills and knowledge necessary to shift towards organic methods, mixed cropping, value

Box 1: Design of training

Participants understand complexity of chemical farming.

Participants get a sense of Green Revolution in to Poison Revolution.

Participants realize the need for equity and mutualism in agriculture.

Participants become open to experiment with alternative remedy for Green Revolution inputs.

Participants realize that irrigation is not must for agriculture.

Participants attempt integration of eco-based components.

They work towards sovereignty for food, seed and water.

addition and organic certification. Interactions with organic farmers, marketing outlets, consumers, and systematic implementation of the “ten steps to organic” form the core of our training.

Youth from agricultural families, having 0-5 acres of agriculture land are trained in sustainable agriculture practices demonstrating how small holder agriculture can be a viable and sustainable option. Organic farming is combined with agro-based diversification. The concept and practice of sustainable agriculture and the practicalities of a transition to organic farming is taught through a season-long process. Skills and knowledge pertaining to crop mixes, farmyard manure, liquid manures, kitchen gardens, bio-pesticides, soil moisture and fertility, water conservation etc., are included in the core content. The course designed for 24 days, is spread over a cropping season of about 6 months.

The concept and practice of sustainable agriculture and the practicalities of a transition to organic farming is taught through a season-long process.

Post training follow-up

After the training, we regularly visit farmers’ field, meet our students and also their family members. Post training support and mentoring through farm visits and on the field guidance has helped

farmers make smooth transition towards sustainable agriculture with confidence and clarity. In a way, our visits have boosted their efforts in applying their knowledge on the farm.

Moving beyond production

We organized a unique program as a strategy for better marketing. *Hasiru Santhe* is a platform where organic consumers meet and interact with those farmers who produce “Safe” food for them. *Hasiru Santhe* is planned with the following objectives.

1. To provide safe and healthy food
2. To promote eco friendly production practices
3. To avoid middlemen and provide better price to farmers
4. To build a culture of trust
5. To assert consumer’s right to know the producer of their food
6. To localize food production and distribution

Hasiru Santhe is organized once a month. Samvada’s five farmers have been continuously participating and supplying organic products in the *Hasiru Santhe*. Our farmers have sold diverse organic vegetables and foods. Food products include breakfast cereals, pickles, flours, herbal balms and ointments, nutritious millets, snacks, drinks, compost, free range eggs... all products certified by the farmers through a rigorous peer certification process called PGS (Participatory Guarantee Scheme).

Outcomes

Many young farmers have applied the knowledge gained in the course on to their farms and are doing very well. They have achieved 24.72% sustainability due to intensive training. Farm



Surendra displays miracle millets for food security



Gopal makes big difference on a small farm

sustainability was quantified and assessed on the trainee farms before and after training. While the sustainability quantification (SQ) level before training was 32.42% it was 57.14 % after the training.

There are a number of young farmers who applied this knowledge on their fields. For instance, Surendra started working on two crops- paddy and finger millet. He tried out fifteen varieties of finger millet and two varieties of paddy and finally identified five good varieties of paddy and one good variety of finger millet suitable to his farm conditions. He also started rearing rabbits, preparing vermi compost and cultivating Azolla. Surendra is also working with other farmers in converting the whole village into organic.

Now the programme has graduated from being a course to an influencer model. The trained participants mobilize other young farmers in their village and give training to the group in one of the trained participants field. Now our trained participants are working as farmer consultants in our training program.

Hope for the future

*'I am proud to become an organic farmer',
 'I succeeded in getting sustainable yields',
 'I earned one and half lakh rupees from the sale of herbal medicine and I am able to provide education for my children',
 'I won't sell my land and will convert it into organic farm',
 'I will start community seed bank for exchange of local seeds',*

These are some of the young farmers' voices raised in Bhavasangama program, an alumni meet of young farmers who were trained in Samvada. We are happy that our efforts are bearing fruits. Not only are these young farmers practicing organic ways

Box 2: Small is 'beautiful'

Gopal is practicing 'ZERO' farming. "ZERO farming is a system of farming in which he conducts different types of agricultural practices together, on a single farm in view of increasing his income through different sources".

Gopal designed the farm by utilizing every inch of land; he has planted 30 Teak and 32 Melia dubia plants on the border around the fence, then he planted Jasmine and improved grass intra and inter bunds. Inside he planted M5 and V1 variety of mulberry. In between these rows, he grows various vegetables and medicinal plants. All the farm waste is heaped for 2 to 3 months. In this period the waste is converted to aerobic compost, then applied through water channel on to the main field.

He collects cattle waste and dumps it in a corner of his farm. Around the compost pit he has planted castor and cucumber creeper. This provides the much needed shade to the pit. He gets partial income from the castor. Last year he got about Rs. 150/- from the sale of three kilos of castor seeds. Cucumber is for home family consumption.

He believes in 'practicing mixed farming to get better and sustainable yield'. He says another important element is "MY FARM IS LIKE AN ATM", I get income everyday from my farm. Last year, he earned Rs. 1,19,650/- from his 18 gunta (it is less than one acre) farm by working two to three hours every day. He is not using single drop of chemical fertilizers and pesticides for the last twenty years. He is planning to convert his farm to no tilling and has not been ploughing for the last two years.

He is also mobilizing young farmers in around Ramanagara of Karnataka state to work on ZERO farming. They started "Nammora siri" team comprising of Ramanagara young farmers.

of farming on their farms but are also working towards motivating others in the village. While our effort has been a starter, we hope that it spreads widely, protecting our environment and people. ■

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Back to farming

N R Ravi Prakash

With increasing number of rural youth joining the labour market, rural entrepreneurship is seen as an important source of job creation where youth can be gainfully employed. But this requires investment in the youth in terms of building skills and capacities and improving their access to finance. RUDSETI, an NGO, has been offering such services to the rural youth with great success.



The pressure of population on land is increasing and the average size of a farm holding is reducing, to below one hectare. Farmers are increasingly getting indebted and the temptation to sell prime farmland for non-farm purposes is growing. Over 45 per cent of farmers want to quit farming, says a survey conducted by National Sample Survey Organization. We hear deplorable stories of farmers ending their life not being able to cope up with the loss and indebtedness from agriculture.

On a closer examination we find that agricultural land is still a great source of income. But it is the practice of unsustainable methods, improper resource management leading to successive crop failures that make agriculture non-profitable and risky. As a result many young farmers are leaving agriculture and migrating to the cities. Under these conditions, how are we going to persuade educated youth, including farm graduates, to stay in villages and take to agriculture as a profession? How can youth earn a decent living in villages and help shape the future of our agriculture? At the same time, we also hear the stories of highly educated persons wanting to move into agriculture as their profession.

Research and experience has shown us that by adopting productive methods and by providing proper supportive mechanisms of credit and market, even a small holding can support a family. The farmers can stay back and live honorably in their own villages, rather than running to urban centers. Keeping this in mind, RUDSETI set out to train a large number of rural youth across various places in India. Today, these young farmers have not only proved that farming could be a very remunerative business but also have shown a way to the other entrepreneurs/unemployed that villages are the place their future lies in. We have presented some selected cases. We admire them and hope that the others of their ilk follow them and stop blindly migrating to the cities.

Building bio-diversity – case of Raju

Raju is a progressive farmer from Basavanapur of Chamarajanagar district in Karnataka. “After attending training at RUDSETI, Mysore, I have changed my views about agriculture”, says Raju. Before training, he was growing only paddy, ragi and jowar and doing sericulture on a small scale. But after attending training, he diversified his activities on the farm. Now he is growing banana, turmeric, tomato, cauliflower, coconut etc. apart from traditional food crops like ragi, paddy and jowar. Raju’s annual income is Rs. 3,00,000/- which was just Rs. 35,000/- in 1999. Now, he owns six more acre of land.

Turning land into rich resource – case of Biswas

Masibat Biswas from Padmanabhpur village in Murshidabad (West Bengal) owned a small piece of land. But the family could hardly meet its ends with the output from the farm. While the family was contemplating to migrate, Biswas who was looking for ways and means to make his land more profitable came to know about RUDSETI. He got trained in the Comprehensive Agriculture and Allied Activities in RUDSETI, Berhampore.

Agricultural land is still a great source of income. But it is the practice of unsustainable methods, improper resource management leading to successive crop failures that make agriculture non-profitable and risky.



Biswas in his banana farm

During the training, he learnt the skills of increasing soil fertility, management of pests and diseases, fruit processing and preservation. It was opening of a new world for Biswas. Knowledge about finance, management and banking was also essential to make agriculture lands more profitable. Masibat Biswas completed his training and he was full of enthusiasm and planned to turn his land into a rich resource. He started his farming with new confidence. He invested Rs.30,000/-. He bought a new bullock cart, sunk a shallow tube well, fixed a pump set and bought some implements. He started cultivating vegetables like cauliflower, brinjal, tomato, chilly etc. and fruit crops like banana. With the adoption of multi crop system, one or the other crop was ready for sale at any point of time in a year.

“The training at RUDSETI Institute was the real turning point in my life. RUDSETI Institute is helping in an individual becoming an entrepreneur by its training.” Biswas earns a net profit of about Rs. 50,000/- and he is happy to live in his own village.

Nurturing nurseries of hope – case of Shyam Prasad

Born in an agriculture family in a small village in DK District of Karnataka State, Shyam Prasad made a forced entry into agriculture after losing hopes in wage employment and self employment. Gradually, he developed interest in agriculture, bought a piece of land nearby Udupi and continued with cultivation of arecanut, paddy and coconut.

He attended a training on raising plant nursery in RUDSETI. He never anticipated that his training on Plant Nursery would bring miracles in his life. Soon after training, he started with two units. He expanded his unit to include nursery of arecanut, coconut, pepper, rubber, fruit crop like Mango, Sapota, amla, etc. He became popular in the area for supplying propagative materials of horticulture crops. He attended another training on medicinal plants

in 2004 at RUDSETI. With this, he further expanded his nursery to medicinal plants and about 300 units of medicinal plants are there in his nursery. Scientific methods are being used on the farm. Shyam Prasad is now a man with conviction in agriculture and employs 15 people on his farm. The nursery unit attracts trainees from the neighbouring institutes, government officials, trainers and scientists from Research Stations.

“RUDSETI infused the necessary confidence in me by its unique way of imparting the entrepreneurship development training inputs.” says a hard working Shyam Prasad. He is earning a net profit of Rs. 7.00 lakhs per annum.

Case of Venkateswaramma

Venkateswaramma hails from an agriculture based family in a remote Vakavaripalem village of Prakasam district of Andhra Pradesh State. She was forced to start farm based activity for her livelihoods as her husband was not well. She bought two animals from her own resources, but was not aware of the management aspects. This made her approach RUDSETI, Vetapalem and was trained in the Dairy programme.

After completing the training, she started dairy farm with two cows with own finance. She sells some milk to the nearby Milk Co-op. society and major portion to local customers. Due to good quality of milk, she has developed local market very well. Later she expanded her dairy unit by purchasing six more animals. Today Venkateswaramma earns a monthly income of Rs.7000. She is happy and a satisfied young woman recognized in her family for shouldering family responsibilities. With a broad smile on her face she owes the credit of her success to RUDSETI Institute.

Jarnail turns into a beekeeper

Jarnail Singh, aged 27 years, a resident of Sansarpur village near Jalandhar (Punjab) had a dream to get a secured employment in a government office though his family owned 30 acre farm. Even after several attempts, he failed to get any government job. Then he approached RUDSETI, Jalandhar and collected information on the various training programmes. He attended “Bee-keeping” training programme at Jalandhar Institute.

Immediately after the training, he procured ten boxes and bees costing Rs.13,000/- and started his venture. After completion of one-year, he increased the number of boxes to 40. At present, he earns a handsome profit of 9,000/- per month. “I had an ambition to get a secure job in a government office. After being trained at RUDSETI, I realized that entrepreneurship is the best way to lead a decent livelihood. I am indebted to RUDSETI for making me self-reliant. I wish to increase the number of bee boxes to 100 in the forthcoming days,” Singh concludes with confidence.

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Nature as a teacher

Paul ter Weel

With little investment but conducive conditions, a bias against agriculture, an indifference vis a vis nature can easily be transformed into a positive and inquisitive attitude of learning and discovering and loving nature. This is what the field school of the Community School for children on Kaliyet Organic Farm proves.



In our semi-urban rural community, just 15 km from the industrial city of Karawang with its Toyota, Honda, Sharp and other factories, most farmers, men and women, and their children consider traditional knowledge as redundant. They are buying their seeds (various clones of Ciherang HY Variety), buying fertilizers, dozens of types of pesticides, herbicides, hiring the tractor man, all with money from money lenders, who cash the biggest shares of the harvest. Soils have become hard and acidic. School kids can hardly read and write when they finish primary school. Younger generation doesn't want to know anything about that 'dirty work' in the wet paddy fields. Because of their low level of education 'what else can they do'? Confronted with this reality, in 2006, Kaliyet Organic farm started an informal Community School for children.

Many of the children, having their mothers working abroad in the Middle East as domestic workers, joined the community school on Sundays to master Indonesian language. The local language is Sundanese. They started to make compost, to sow and grow vegetables, but also learnt to play music on the Gamalan instruments, and Angklung music on bamboo instruments.

With the growing alienation of the present generation of children from their immediate environment, last season, we also considered that time is ripe to engage a group of 24 children one full season in growing and observing the growth of paddy. Recently, till February 2011, during the main (rainy) planting season, a group of 15 pupils from the senior high school for agriculture from the hill villages above Garut, some 150 km to the east in West Java, have been doing a season-long (4 months) *internship* as well doing a course in Organic Agriculture¹.

Besides books on Experiential Education, our main teaching materials for the school curriculum are the Training Manuals for Farmer Field Schools² as written during the nineties by the FAO-team that introduced the IPM Field Schools in Asia and later elsewhere in Latin America and Africa. Some parts of the manuals

had to be updated and changed, since on our 3.5 ha of paddy fields, we are farming Organic. Modules on fertilizers and pesticides were replaced by modules on optimizing the use of FYM, making and application of compost, use of green manures, botanicals etc. One of our fields was used for – what became to be known as – School in the Paddy field.

School in the Paddy field

The once in a week 'School in the Paddy field' mainly takes place in the paddy field itself. The Farmer Field School model has been discussed in the pages of LEISA India on various earlier issues. To do a similar curriculum with children was inspired by the earlier work of World Education with the Department of Education of Thailand, also in the nineties.

In our case, we had a mixed age group of primary and secondary school children (ages 8-17), and recently a more homogeneous senior high school age group of 16-18 yrs. Although the school with the children is often done in a more playful way compared with the adult Farmer Field School, they perform the same observations, also sample the growth process of 20 hills every week, do the same weekly rice-ecosystem analyses of their field, discuss data and impressions from the field and make their group presentations, each week by a different member of their group.

During the first Field School classes, the participants have to get used to their new roles as students of Nature, documenting, discussing their data and presenting. A few observation-sharpening exercises³ are being added to the curriculum and the second session consists of interviewing elders in the village about traditional indigenous concepts about Bumi (Earth), Ibu Pertiwi (Mother Earth), the agricultural and cultural practices which they can remember of their elders and grandparents. This enables the children to get in touch with their culture and past, to discover the wider dimensions of agriculture and somehow forms the basis of seeing Earth and Nature as a 'book of knowledge' to read and



Haneefa observing rice flower

discover. To interview elders in the village about ‘mother Earth’ was a new experience and made them look at soil and earth in a different way. “We always thought soil was just soil, something you walk on, a dead thing. But now we have discovered there is a lot of life going on there. Especially among the roots of the (rice) plants”, says Susi from junior high school.

After 3-4 weeks and the discovery of how much there is to discover in the rice field: the way plants grow, develop their tillers, become home of the first generation of insects, how early leaves grow old and are easily being replaced by new ones, having a closer look at the behaviour of insects, being herbivores or predators, coming back from the field to the classroom becomes more and more a busy place of getting their observations accommodated in the presentations. However, observations are still often competing with prejudices. And so it remains important during the whole period of 15 (weekly) sessions to keep on underlining: “What do i see?” or “What actually did you see with your own eyes?”

While the presentations in the first weeks are still often reading the data from the presentation drawing or notes, after a couple of times the presentations become more ‘reflective’ on what has been noticed in the field. Some questions to bring to the field and to the discussion table (from the basic manual) in the meantime have to be adapted and rewritten going more stepwise from a broad field wide impression, narrowing down on a couple of square meters, to estimate the percentage of problematic hills, weeds, leaf colour differences etc. and finally getting more minute, on the 20 selected hills, the water, soil, worms and insects around.

Observing the characteristics and behaviour of insects on and around the plant often asks for more time than is available during the group observations. Some of the more curious participants however start to use their own spare time to the field and take more time to discover (for instance late afternoon when many insects show up) the behaviour of different insects, or discover other insects. This also should be encouraged and time should be given at the next school gathering to present additional individual (or group) observations done during the previous week.

With the transition from leaves to reproductive stage of the plant new life develops inside the stem of the rice plant. The growth of the panicle inside each tiller is one of the most exciting moments,

later only to be matched by the brief flowering of the rice and the grain shaping process. To learn about the flower during session 1, we use a 10x magnifying glass and the next week we use a basic microscope (40x) to even more closely observe the stamen, pistil and pollen, and the development of the rice kernel. A simple 10x glass is a basic requirement to show previously hidden phenomena in the growth of the rice kernel. “*For the first time in my life with the microscope, I have seen the beauty of ‘Life’*” exclaimed Rudi, a 17 year young senior high school pupil from Garut, looking at the flower of the paddy.

The importance of this ‘simple’ curriculum of ‘discovery learning’: observation, documentation, discussion and presentation of Nature’s growth and development during one season brings about a fairly different view by the participants on what was at first seen as routine (by farmers) or ‘dirty work to be avoided’ (by the younger generation). It is also a sign of the dire state of education and especially agriculture education which is dry, disconnected from nature and practice.

With little investment but conducive conditions, a bias against agriculture, an indifference vis a vis nature can easily be transformed into a positive and inquisitive attitude of learning, discovering and loving nature

During the recent ‘Graduation’ and harvest celebrations with songs from all over Indonesia, with a play about migration, with African percussion and Sundanese (West Java) traditional singing, one of the schoolteachers from the junior high school informed us that the pupils who had joined in the Rice field school did remarkably well in the regular school.

The experience of this one season, involving meeting fifteen times during a field school shows how with little investment but conducive conditions, a bias against agriculture, an indifference vis a vis nature can easily be transformed into a positive and inquisitive attitude of learning, discovering and loving nature.

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Farming as a positive choice

Meenakshi

While conventional educational methods have made learning as abstract as possible, rarely connecting the learner to reality, Puvudham Learning Centre has been shaping the thoughts of young minds by creating an environment where the inherent sensitivity and intuition of the child is sharpened and encouraged.



Farming is the most important occupation on earth for nothing can survive without food. While this simple fact has not changed, the attitudes of society have shifted drastically. Farming is not considered a worthy occupation. It is felt to be the lowest of jobs. All are looking to get a job and leave the village as quickly as he/she can. This sad state of affairs is perhaps true for the whole of India.

Education plays a key role in this scenario. Farming majority cannot read what is present in the inputs used by them. Most people cannot read the warnings on the pesticide packs. Nor can they read the instructions of self protection. Farming, in a majority of cases is done by people who have limited understanding of pollution to the soil, water and air. Also, they are not expected to understand the phenomenon of global warming, open market economy or even the importance of planting trees. Thus a greater attention to farming is needed in Indian education system. In our school, we treat farming as a very important activity and its importance in the overall picture of life is emphasized. While suggesting career options like doctor, engineer, teacher etc., 'farmer' is included with pride.

Farming is now left to the people who are considered incapable of doing anything else.

Genesis of our journey

Both of us, Umesh and Meenakshi were born and brought up in Mumbai. Twenty long years in Mumbai opened our eyes to the various facets of urban life and the realities behind these. Our search for an alternative brought us to Auroville, near Pondicherry where we worked with low cost eco-friendly construction

technologies and organic agriculture. But we always wanted to grow our own food organically and have a school where learning was a natural and fulfilling part of life. From Auroville we both moved and tried to work with other NGOs.

After working with these organizations for some years we decided to settle down on our own and practice the various alternatives in farming and education. We were financially very constrained and in 1992 we bought a completely degraded 12 acre piece of land in a drought-prone area of Dharmapuri District in Tamil Nadu. There were about 2 acres of arable land where we could grow dryland crops and 10 acres of eroded hill slopes on which we could only hope to regenerate the land by creating a forest. For the first 3 years there were good rains and we were able to do farming. But in 1997, when the rains became erratic and undependable, we started losing our crops.

That year we decided that we could not completely depend on rain-fed agriculture to support us and so we bought some land in a valley with a dependable source of water. But due to a history of intensive use of fertilizers and pesticides by the previous owners, the first two years of organic farming failed to produce good yields in the irrigated land. In the third year natural balance began to establish itself. We were careful not to apply even sprays when we noticed beneficial insects. By the fourth year the land had regained its health and our outputs improved. Around this time we decided to work with local people and help them to convert to organic methods of agriculture, not directly but through their children - the future farmers.

School for future farmers

We started a school in 2000 based on the ideologies of Rabindranath Tagore and Mahatma Gandhi, using methods demonstrated by Maria Montessori and David Horsburgh. We started with 7 children



Children planting saplings on their plots

in 2000. Now we have 95 children in our school. The children live and learn with us. We also run a hostel for children of migrant labourers. The day scholars are children of nearby farmers. All of them are first generation learners.

In designing the curriculum for our school, we were very aware of these conditions. The school is the place where the child learns to value himself/herself and others. The child also learns a value system that stays with him/her all through life. In our view, the school is a place to sensitize the child, to build a culture of respect for nature and an awareness of his/her role in its preservation.

Sensitivity makes space for creativity and scientific discovery.

The total focus of all that we do in Puvudham Learning Centre is to try to create an environment where the inherent sensitivity and intuition of the child is sharpened and encouraged rather than demoralized and snuffed out. Sensitivity to animals, to plants, to nature as an entity, to other people and to the inner personality or the self is kept alive through working with nature.

In conventional schools, learning has become fragmented and removed from life. It has been made as abstract as is possible and it is rarely that a child can make a connection between what he/she learns at school and what happens in real life.

Our curriculum has evolved on this foundation but has included the story telling and singing tradition as a means of passing on knowledge effortlessly. The traditional schools rarely classified the subjects in the early school days. Learning was wholesome and was meant to be used to understand the life around the child.

It is our intention, through our curriculum, to integrate life and learning and help children to synthesize knowledge through the observations and experiences made available to the child in the school environment or the real life environment.

Keeping all these requirements in mind, we decided to classify our learning into five basic modules centered on the five elements: Sun, Earth, Water, Air and Space. The five elements are essential for survival. The children learn the physical properties and experience these elements through their five senses. We call this

type of learning as Experiential learning. We all know that learning is much more accessible for practical use if it is experiential or has been acquired by doing. The basic essential concepts deemed necessary by the educational boards and institutions are incorporated in stories and songs and repeated and recited in class.

The children make concept drawings to express what they have understood from the stories and songs. Mathematical activities like counting, sorting, classifying, measuring, measured drawings, scaled drawings and geometrical drawings like the traditional Rangolies are all used to include mathematics in the class activities. Discussions, walks, observations and questions are a part of everyday classes. Children are guided to speak about what they know about the element or the concept and then the teacher helps them to build on their existing knowledge of the same.

Learning by doing

The children are divided in to groups. On an empty plot of land they decide and mark the part they want to grow plants in. They measure the plot and draw it to scale. They design the rows and decide what they want to plant. They calculate the quantity of seed they will need. They mulch, water and watch their plants grow. They measure the rate of growth, count the number of flowers and compare with the number of fruits. They observe and sketch the plant parts and the insects and birds that visit. Finally they compute the time they spent gardening and the quantity of vegetables they could harvest and make a cost analysis of their activity. They also learn to make natural pest control extracts and vermicomposting.

This type of knowledge synthesizing process we believe will empower the child and make him/her feel that their methods of learning which helped them acquire so much knowledge till they got to school is a valid method.

This approach has two main aims: firstly, to make the experiences that students have at the school relevant to the students' lives, and to rural livelihoods in general. Secondly, the teaching methods should give value to the children's own knowledge. Children already have a lot of experience of the elements that they have gathered while helping out at home farming. This knowledge of theirs is generally brushed aside as useless. By celebrating and using the knowledge that children have about the environment, and by presenting farming as a positive choice socially, the children from our school will have a more balanced perspective.

We do hope that the fact that they have had so much time to dwell on it will help them resist the parental and peer pressure to make money the sole object of their work. And maybe a few years down the line they will find ways of living a simple, dignified, economically satisfying and fruitful life based on farming and the values they have imbibed from our school.

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Meeting a region's broad development needs

Francesca Dalla Valle and Peter Wobst

The Food and Agriculture Organization of the United Nations, FAO, works to raise levels of nutrition, improve agricultural productivity and the lives of rural populations, and to contribute to the growth of the world economy. The Gender, Equity and Rural Employment Division (ESW) supports FAO's efforts to promote the economic and social well-being of the rural poor. To address the specific challenges faced by youth, this division initiated and has been following the Junior Farmer Field and Life Schools (JFFLS) approach since 2004. As seen in Palestine, the results can have a broad impact.



The Junior Farmer Field and Life Schools (JFFLS) combine support to vocational educational training opportunities with employment promotion. They are a concrete manifestation of the increasing recognition of the linkages that exist between rural employment, poverty reduction and food security. The schools have a unique methodology and curriculum, providing agricultural, life and entrepreneurship skills in an experiential and participatory learning approach. There is also an employment-oriented component which encourages and helps JFFLS graduates to form *Youth Farmers' Associations (YFAs)*, through which they can more easily access resources and place their produce in the markets.

A complete approach

The JFFLS-YFA process is structured into 3 consecutive phases: a learning phase, an employment phase, and a market access phase. During the *learning phase*, FAO works closely with a country's Ministry of Education in formal schools, the Ministry of Youth (via youth clubs or vocational education training centres) and with the Ministry of Agriculture. During the *employment phase*, FAO works with the Ministry of Labour, farmers' associations and co-operatives and agri-business and marketing experts. Efforts are made to register associations, or to open youth branches within established farmers' co-operatives. This enables the associations to register the land they use for farming under their own name. The third and last phase is the *market access phase*, during which

FAO works closely with the Ministry of Trade and with rural finance and micro-credit institutions, aiming to connect the associations with potential lenders so as to allow them to expand their activities and production. In many countries, co-operation with the Ministries of Trade and Agriculture has helped the youth associations reach high quality standards in, for example, organic farming products.

The programme has been successfully introduced in several African countries as well as in the Middle East and Asia. The JFFLS-YFA have more recently been included as one of the main activities in the United Nations Joint Programmes for "Youth Employment and Migration" in Malawi, Mozambique and Sudan, as well as in the UN's "Jobs for Peace" programme in Nepal. Field evaluations have shown that the JFFLS-YFA approach has been helping develop the entrepreneurial and agricultural skills of the youth as well as their self-esteem, helping them become healthy and positive young adults.

Capacity building in Palestine

One of the most interesting applications of the JFFLS-YFA approach has been seen in the Palestinian territories (in the West Bank and the Gaza Strip). The situation in these territories has prevented the free flow of goods and services, and disrupted the stability needed for an orderly life. The further division of the West Bank into separated areas (as a result of the "Oslo Accords")

has contributed to the fragmentation of UN interventions and has been an impediment towards a holistic approach. Palestinian youth face a number of handicaps and disadvantages: a lack of rural employment opportunities; vulnerability to an increasingly tense crisis and the lack of appropriate agricultural training facilities.

Reduced access to land is increasing food insecurity among many households. Youths are particularly vulnerable to this as they need access to nutritious food in order to grow and develop. It is essential to invest in Palestinian youth in order to facilitate the evolution of a Palestinian state. The development of a youth workforce is one of the most important priorities and challenges towards a peaceful and prosperous society. Vocational training and employment opportunities are essential to allow the youth to make a contribution to promoting Palestinian national development. The main goal of the JFFLS-YFA approach in Palestine has been to build local capacities to meet the development needs and priorities of Palestinian youth, while responding to the need for sustainable environmental, economic and social development.

Two specifically trained facilitators (chosen among extension officers, teachers, social workers and/or farmers' cooperatives members), used this participatory methodology to share agricultural knowledge and life and business skills with 15 girls and 15 boys in different schools. These 2 to 3 hour sessions were given twice a week; each taking place in the field after regular school hours.

The course not only teaches them how to grow healthy crops, but also how to make informed decisions for leading healthy lives.

The learning programme lasts a school year and follows the crop cycle; participants are taught about the links between agriculture, nutrition, gender equality and life and business skills. The course not only teaches them how to grow healthy crops, but also how to make informed decisions for leading healthy lives.

Local women's associations were put in charge of preparing and distributing meals for the students attending the lessons. The selected associations also benefited from trainings in good nutrition, health, agricultural value chains, entrepreneurship skills and on the fundamentals of the JFFLS approach.

Broader opportunities

Since 2008, approximately 2,000 youth have been trained in the JFFLS approach in the West Bank and Gaza. They have subsequently been grouped into more than 20 youth farmers' associations, and become involved in activities that range from honey processing to horticulture and livestock. All the young



farmers are full members of the associations and receive a share of the profits from their association.

One of the most successful examples of the employment phase comes from the Hebron district in the West Bank. Here, the JFFLS graduates came to join the Al-Shiva Hive Co-operative Society. The co-operative is renowned, nationally and internationally, for producing and exporting organic honey. The students were trained in the honey value chain and learned about agricultural value chains, beekeeping, maintaining bee hives and honey processing. They were given full membership of the Co-operative Society and share in the profits like all the other cooperative members.

Marketing exhibitions or “khayrat blady” are organised once a year in the West Bank and Gaza Strip, and bring together all the associations involved (representing both women and youth). The exhibitions not only provide a concrete marketing opportunity, but also a chance to exchange ideas and skills among themselves. These events allow the associations to display and sell their goods (including breads, vegetables, cakes, cheeses, embroidery work, handicrafts and jewellery) and to develop short and long term contracts with different clients.

Throughout the process, FAO developed and maintained strong partnerships with several ministries, the Youth Development Association, and with the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA). These linkages have proved crucial in strengthening the capacities of the public administration and civil society. They have also been fundamental for the institutionalisation of the JFFLS approach and the entrenchment of mechanisms for addressing rural youth unemployment. The linkages between groups of JFFLS graduates, existing youth clubs, women’s associations and local farmers’ groups have proved essential to ensuring the continuation, replicability and sustainability of the activities.

Students enjoy learning about agriculture

Basel Yousef is 15 years old and one of the students selected to participate in the Junior Field Farmer and Life Schools Programme. Basel is from Salem village, one of two villages in the school catchment area in the district of Nablus, in the northern part of the West Bank. The Der Al Hatab School has 600 students, aged 9 – 15. Basel enjoys learning how to work with the land at school as part of the JFFLS approach. He now knows the implications of seasonal changes for agriculture, how many days particular vegetables need to develop, when to water and irrigate the land, and the purpose of using fertilisers. Basel lives at home with his mother, 3 brothers and one sister, about 2 km from the school, and his family was enthusiastic about his involvement in JFFLS. Basel hopes to continue learning about agricultural practices in school and eventually go on to university.

There is a continuing discussion with the Ministry of Education and Higher Education about including agricultural lesson within the national curriculum, which the Ministry appears to favour. FAO’s involvement led the Ministry of Youth to pilot agricultural lessons and the Palestinian Authority has now seen the benefit of this approach and opened a unilateral fund agreement with FAO to institutionalise this approach.

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Learning from farm, learning to farm

Nandish

Farming like any profession requires dedication, understanding, constant learning and application of new ideas and above all a desire to view it as a part of the greater ecosystem. Here is a case of a young farmer who has nurtured his farm with utmost care and sensitivity to the environment.



Artistic by nature interested in creation, visualization of things in the advertisement (ad) mad world I didn't take schooling seriously and discontinued my pre-university studies. In 1998 circumstances pushed me to farming. Even though I hail from an agriculture family I was unaware of agriculture. In the beginning, I just watched the activities going around my place then took charge from my family with a condition that nobody should interfere in my work. This created more pressure to show results through yields. I started farming as per the recommendations made by the agriculture universities and departments.

Working continuously on my farm, I started feeling that farming is laborious providing less returns with more inputs. At one point, I felt farming was meaningless, a nuisance where only those who are foolish would remain. I had no sense of joy in the job. I strongly felt that if this was the way to do farming it may not be worthwhile to continue. Rather, I was not sure if I would want to continue for long. But I had no options either to quit.

Knowledge, key to farming

As I always used to see, think and do the things differently I thought of alternatives. In 2000, I found the treasure of my lifetime that was Masanobu Fukuoka article in a magazine. I felt his four principles of natural farming i.e. no tillage, no weeding, no fertilizer and no pesticides are true way to do things and were the need of the time. There I found "logic of legumes" grown before, after and along with the crops by Fukuoka i.e. "legume logic". I started to examine the reasons for zero cultivation to fail. I understood it was lack of cover crops and also an absence of diversity, even in weeds. I felt that the role of green mulching and green manuring has been greatly underplayed in our farming systems. I started hunting for the leguminous cover crops, herbs and shrubs.

I introduced creepers, bush and tree varieties with annuals, bi annuals and perennials on to my farm. I strongly believed that

every type of plant had a role to play in keeping the farm healthy. I started planting tubers as their root growth helped in enhanced soil aeration. The legume crops helped in fixing nitrogen, crop diversity aided in controlling pest and diseases in the main crop, withered leaves from perennial grasses produced the much needed plant biomass, shrubs controlled sun scorching, some toxic plants kept cattle grazers away from my farm, live fencing by fast growing shrubs and trees helped in generating more biomass and served as wind breaks, and bamboo plants helped to maintain ideal microclimate by regulating the temperature in hot sunny days. Finally, forest kind of appearance made many people to stand outside of my farm and admire.

In the meantime I also heard about LEISA, low external input for sustainable agriculture, which attracted me a lot. By that time I was able to realize low input is the key for sustainability. Before practicing LEISA, I first analysed the costs and returns from my paddy field. I understood that I was spending around 45% of my total cost on fertilizers and pesticides. I targeted to cut those White Elephants.

An article from IRRI scientists in an agriculture magazine helped me remove psychological blind spot which I carried in my mind. They reported that pesticides are not required during first 40 days after paddy transplanting as it kills the beneficial pests and destroys the natural balance. Later on just by varieties selection, green manure as feed, water management and some corrections in the practice helped me come out with solutions in dealing with pests and diseases.

Learning from nature

In the initial stages of paddy nursery we had problem of parrots eating sprouted paddy and it was difficult to control this menace. Only later I came to know that they are correcting the seed rate used. They taught me that the high seed rate which I was using (25 kgs of seeds per acre) produce weak droopy seedlings.



Its green everywhere

I switched over to lesser seed rate of 5 kgs of seeds per acre which produced strong, sturdy, erect plants with vigorous roots, strong enough to face tiny crab bite and water blow after transplanting. Similarly, Glyricedia on bunds and borders checked the activity of field mice apart from producing green manure acting as a live fence. I thought that all these creatures are harming my crops but later I came to know that they are correcting my mistakes and they are saying some thing that we need open heart and mind to understand. I realized each and every step in the practice is not correct, needs correction.

My views on farming

Selecting crops according to the local agro climatic conditions made farming easy. Presently, more than 75% of the work and inputs are saved and I get up to 50% more yield than the average of my area.

Learning from our own observation and applications is important. Data entry by mapping takes a day every year; it helped me to

Green manuring in Paddy

Soon after paddy is harvested in December we broadcast 15-20 varieties of green manure along with the green gram crop in February. Green gram is harvested in 3 months and at the end of May, again horse gram seeds are broadcasted. This creeper crop doubles the biomass and these climbing creepers acts as first floor and remain till July – August. They all grow at various heights up to 14 feet height. Even a ray of sun light does not enter the dense green manure. Perennial grasses and weeds get suppressed without sun light. Root zone covers the ground soil up to 2 feet in radius. When incorporated into the soil, 3-4 inches of soil is filled with organic matter. Green manures like cassia, indigo, crotalaria, sesbania, sesame, mustard, sun flower, millets, jowar, coriander and many other legumes are used.

The post-rice green manuring is 3 times more powerful than 45 days standing regular pre-rice green manuring. No need of any prepared manures even in the first year. In 2-3 years any kind of degraded soil can be conditioned. This I found to be the easiest, fastest, cheapest way to enrich the soil which is possible for the paddy growers only.

know the whole farm statistically in all respects. For instance, I maintained same expenses for paddy from past ten years. In ten years my profit per acre multiplied ten times. Apart from farm expenses we need to document each and every thing we observe on farm. This will be our guide for future - things to do and not to do for the upcoming year, each one teaching, reminding and helping to correct our practices – There is lot of learning within us only. Farming needs a lot of commonsense, understanding and a desire to live with all living beings.

There are over sixteen alternative ways towards sustainable agriculture - organic, natural, LEISA, perma culture, bio dynamic, zero tillage, conservation tillage to mention a few. Each is a kind of knowledge, nothing is fine, final and ultimate. Many people went for chemical farming because they thought it as a shortcut but I went for eco-friendly practices in order to reduce unnecessary tasks and not for the sake of a label or a certificate. Books, practices and knowledge are all important sources for our lateral thinking. There is no ready package of practice which can be followed. Cut and paste method is not possible, especially in farming.

An ideal farm is that where you feel cool air, can sense the aroma of soil, flowers, fruits; can see colorful creatures; can taste variety of vegetables and fruits, and hear the sounds of bees, birds, animals as in the forest. In one sentence a farm is a place where “You feel all your senses”

Mine is green ‘culture’ instead of usual clean culture. An ideal farm is that where you feel cool air, can sense the aroma of soil, flowers, fruits; can see colorful creatures; can taste variety of vegetables and fruits, and hear the sounds of bees, birds, animals as in the forest. In one sentence, a farm is a place where “You feel all your senses”

Future challenges

Sun hemp and velvet beans are my major agricultural tools. For all my crop demands and solution for farm I like to see and get only through green manures. My challenge is to grow paddy in natural farming without tilling the land. In my effort to reach that stage, I tried growing paddy on permanent raised beds but have not yet succeeded. Another challenge is to take the practice of horticulture to a level where irrigation in summer becomes unnecessary. These challenges will make farming even more interesting to me.

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Shikaripur taluk,
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Going organic

Anurag, Maya and Sujata Goel

Only when farming is based upon “natural principles” can it be truly sustainable. Ecological farming is based on nurturing and nourishing the soils. Emphasizing soil conservation and building up organic matter are key to maintain these natural ecological balances in crop ecosystems. Mojo plantation is one such attempt.



Mojo Plantation grew out of an idea which prompted us to walk away from promising careers in lab research and urban living, and find a piece of land where we could live a more organic way of life. This is our story which we wish to share with a wider spectrum of subsistence farmers who strive to live off their lands in sustainable, productive and non-destructive ways.

Mojo Plantation is located in one of the highest rainfall zones of Kodagu District, Karnataka which lies in the heart of the Western Ghats of India. At 1100m altitude, we receive 3500–5000mm (200 inches) of rain annually, most of it between June and September. The plantation is also densely forested with native trees. While this environment places limitations on the types and quantities of crops we can grow, it creates its own unique flavours which are reflected in the quality of our organic produce. The unique and most attractive feature of this area is that the local crops such as cardamom and pepper (which are indigenous) and coffee and vanilla (which were introduced) are grown under the shade of rainforest trees. We cultivate crops that can be grown in the shade of the rainforest trees, employing practices which are in tune with the forest ecosystem. We have been completely organic for the past 15 years and have encouraged others to do the same.

Applying Organic Principles

We welcome and encourage all forms of organic farming whether it be revival of traditional practices (such as panchagavya), biodynamic farming, permaculture or natural farming; they all result in sustaining live and healthy soils which is the foundation of a strong agri-ecosystem. We have endeavored to develop this plantation along the principles by which Nature “manages” land and water resources. Our aim has been to strike a balance between time-tested traditional practices and modern scientific approaches.

Since agriculture is a dominant human activity and occupies about 38 percent of available land space, the decisions that agriculturists make can dramatically effect biodiversity levels. Loss of habitats is a major threat to loss of species diversity world wide.

Using organic farms and fallow lands to provide primary habitats for encouraging species of local small wild life and wild life linkages can contribute significantly towards supporting beneficial organisms and processes. As a result, beneficial microorganisms contribute to a rise in detritus activity of the soil, increased nitrogen fixation, and increase in nutrient cycles. Areas where grasslands are encouraged become sponges for harnessing rain water to replenish water tables and aquifers. The integration of fallow lands into cultivated areas also enable pest-predator balances, promotes an even distribution of predators which offer effective pest control in the field, and attract pollinators. On organic farms such as ours which have no trace of chemicals around, parasitic insects colonize native plant species and play significant roles in controlling pest populations.

The weeds which grow rampantly all over the farm, provide a sustainable source of biomass which we use for its nutrient value, being processed through our livestock of cattle, goats, turkeys. The rich detritus of the rainforest ecosystem gives us excellent humus soils with a varied microbial population. We use weeds, (particularly the foliage of legumes, medicinal plants, and insect repellent plants), cow dung, cow urine, wood ash, neem cake (occasionally), organic farm wastes, to make our compost. Drenching the heaps with a dilute preparation of EM (Effective Microorganisms) bacteria decreases composting time from 6-8 months to 2 months. EM is a mixture of “good” bacteria, isolated from soils, and include photosynthetic bacteria, (*Rhodospseudomonas* spp), lactic acid bacteria (*Lactobacillus* spp),

and various yeasts (*Saccharomyces* spp), all of which work towards very rapid enzymatic breakdown of large organic molecules into smaller compounds which can be effectively taken up by plants as nutrients.

Protecting crops from diseases

The major crops are cardamom, coffee, and black pepper. Vanilla, turmeric, ginger and spice trees are also integrated into the growing valleys. Fruits like banana, oranges, jack, lemons, bitter lime, pineapple do well. We multicrop at all levels and use the shade of the forest canopies as far as possible to avoid clearing the valleys. We also grow a variety of fresh foods and spices (on a small scale) that are consumed by us and our guesthouse, Rainforest Retreat.

During the early years, we had heavy infestations of the cardamom stem borer (larva of a moth called *Conogethes punctiferalis*). It is not unusual to find pests co-evolving with the crops that have been indigenous to an area for a long time. To combat the borer pest of cardamom, we developed bioassays which enabled us to screen a host of indigenous plants for their insect-repellent properties. (This study was funded by a small grant from National Geographic Society, USA). The plants showing positive results were field tested for their efficacy under natural growing conditions. The advantage of using antagonistic properties of plants is that they do not create a significant selective pressure on the insects and do not allow them to develop resistance in their populations. Foliar sprays made from infusions of these plants enabled us to bring the borers under control.

We have also found that introducing native strains of a soil-borne fungus *Trichoderma* by culturing them on compost, has significantly decreased damage caused by the fungal pathogen, *Phytophthora*, different species of which devastate local crops of cardamom, pepper, and ginger. *Phytophthora* is a global menace and has a history of destruction of a wide range of crops.

Since agriculture is a dominant human activity, the decisions that agriculturists make can dramatically effect biodiversity levels.

Nurturing biodiversity

Protection of crops against diseases can be manifested at the ecological level through natural predation of pests, as well as by inducing the natural defenses of the plants themselves. One of the features of a natural forest that we have tried to conserve here is the rich biodiversity prevalent under the canopy of rainforest trees. By leaving uncultivated sectors of natural weeds and fauna in each valley, we have been encouraging insect predators to flourish in these valleys. As a result, we now have excellent populations of spiders, wasps, dragonflies, frogs, lizards, snakes, and a wide range of birds, all of which contribute towards building up of a diverse and healthy agri-ecosystem. Birds are amazing for their ability feed on insects and caterpillars; spiders are indiscriminate trappers

Agricultural Practices at Mojo

We maintain the forest canopy to conserve fragile top soil, replenishing it with compost, and incorporate forested spaces within the cultivated areas.

All organic wastes generated on the farm are composted and recycled through use of native bacterial cultures.

Native weed populations are conserved through use. Weeds are invaluable in providing biomass which we require in abundance for composting, mulching and returning nutrients to the soils; and for creating native habitats for all the other supportive species which constitute an integral part of the rainforest ecosystem.

Fallow stretches of land are integrated into cultivated areas to encourage and increase the populations of predatory species like birds, spiders, dragonflies, mantids, frogs, shrews, wasps, etc which have enabled us to keep a check on the pest populations.

All fields are multiple cropped, with thick layers of forest mulch to always keep the soil moist and protected from erosion.

Riparian areas (stretches of land bordering streams at the base of all valleys) are preserved as buffer zones for minimizing impact of fragmentation. Natural vegetation like reeds and grasses not only filters the water but also decreases erosion. Tanks have been built to harvest and hold water within the fields which has helped in decentralizing irrigation activities.

Hill slopes are terraced and banded with coffee, pepper, spice trees amidst the native trees which help in preventing habitat loss through erosion, and minimize the negative impact of heavy rainfall in this belt.

Any land management technique that increases the use of organic farming towards building up local biodiversity and natural resources.

We maintain nurseries for all crops. The location is changed every few years to avoid pathogens from developing in one area.

Animal husbandry constitutes a significant part of farm management practices. Integrated into the agri-ecosystem are cows, goats, geese, poultry, and turkeys. Cattle offer us one of the most efficient "bio-converters" and cowdung is used for composting and generation of biogas for domestic purposes.

of a whole range of insects. Wasps lay their eggs on larvae, which hatch and being carnivorous, start feeding on the grubs which could otherwise be a crop pest. Bats, frogs, salamanders, lizards, shrews, mantids, are all insect feeders, and form a link in the intricate food web of a forest ecosystem .

In nature, plant defense traits are polygenic and thus this variation becomes a fantastic reservoir of natural adaptive mechanisms in response to changes in biotic stress. We have found that over the years, crop losses due to diseases have become negligible, the plants require no sprays (we have not used the botanical repellents for the past 8 years) and exhibit an overall vigour that is gratifying for any farmer to see.



Planting cardamom sapling on Mojo farm

Human agricultural practices have evolved in very destructive ways. Use of chemical fertilizers and pesticides have killed the living components of soils, and much of the biotic factors that constantly stimulate the natural defense-related chemistry in plants. As a result, if plants are not exposed to inducing stimuli, their natural defense systems cannot be developed, nor expressed. Each application of a pesticide kills not only one species which is considered a “pest” of the crop, but also completely destroys the complex network of biotic life that supports that ecosystem.

Organic farms try to emulate forest ecosystems as far as possible. The diversity of creatures in the field enables increase in complexity of plant-insect-microbe-fungal interactions both above and below-ground. It is this diversity which is responsible for incessantly stimulating the myriad of self-protective chemistry of plants; it is this diversity, both within the crop genotypes, and in the fields surrounding the crops, which enables healthy cropping systems. If one encourages diverse species of native weeds to be integrated into the cropping areas, the need for artificial crop protection becomes minimized.

Finally, we have come to realize that it is only when farming is based upon “natural principles” can it be truly sustainable. Ecological farming is based on nurturing and nourishing the soils. Having healthy predatory populations within the agri-ecosystem naturally reduces the pest damage caused to crops. Having genetic diversity amongst the cropping system also enables us to select and maintain resistant germplasm. The heavy rainfall zones in the Western Ghats have a fragile ecology and are extremely prone to soil erosion. It is important to try and adopt agricultural practices which emphasize soil conservation and build up organic matter rather than conventional farming techniques which depend upon heavy use of chemical pesticides and fertilizers which destroy the

natural balances and lead to further destruction of this rich environment.

Eco-Retreat and Educational Outreach Programs

Our NGO (WAPRED) was established in 1996 to raise environmental awareness and develop sustainable means of agriculture for our fragile ecosystem, using Mojo plantation as a model organic farm nurtured on ecological principles. We have shared our research and organic practices with other local growers, although we still perceive some resistance to changing agricultural practices. WAPRED has also been instrumental in establishing an association of certified organic planters from different parts of this district (OAK, www.organicassociationkodagu.org)

We also initiated the formation of an association of local growers (Galibeedu Organic Association, GOA) with help of a First Prize Award from *Eco-Club International*. Through this project we encouraged the local small farms to adopt sustainable techniques and practices by initially providing the participants with both material and technical inputs for their land, and marketing assistance for their organic produce.

The NGO also hosts educational workshops and programs for farmers and student groups. We have particularly been encouraging young people to participate in farming activities, through imparting knowledge of the self-sustainability of the rainforest ecosystem.

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Agriculture is for our life

“Agriculture is for our life and going to school and college is to improve our knowledge” are the words of my father which inspired me to stay in agriculture. I have finished my Master degree in Business Administration and am into farming for the last eight years.

In 2002, when I was 22 years, I was inspired by Dr. Nammalvar, the legendary organic farmer in Tamil Nadu, who had addressed out villagers about the need for organic farming and environmental preservation. I then started collecting more information about organic farming – from family members, elderly people in my village and from books. I also attended trainings at Kolunji ecological farm of KUDUMBAM. I started applying those principles and gradually converted my land from chemical to organic. Now I am cultivating organic paddy, sugarcane, groundnut, pulses, and millets.

The success behind my farming is that I am making a crop calendar depending upon the monsoon and climatic condition for doing the farming activities. I split the land and utilize it according to the soil type and water resource. I apply enriched farmyard manure. I also cultivate Daincha (green manure) and incorporate it into the field. I use bio-control agents and herbal decoction for pest control. I prepare panchagavya as a growth promoter. I visit and work everyday in the field. In sugarcane field, I am cultivating sugarcane as well as Daincha as a green manure. I cultivate Daincha and legume crops like cowpea, black gram, etc. on the rows. I recycle the sugarcane leaves by making compost and applying this compost during 70- 90 days. I get a yield of more than 51 tones/ acre.

I would like to bring up my son as a farmer.

I am happy that my brother Mr. Vijay Kumar is also into the field of agriculture. Unhappy with chemical farming he attended several trainings on organic farming from Kudumbam, Government of India and Parry Sugar Mills. It has presently established a bio-control lab and producing trichogramma egg parasite cards. He now educates the farmers how to control expenses during cultivation. Now Parry Company buys the card from Vijay Kumar and supplies it to the sugarcane farmers in this area. He earns around Rs.15,000/- per month.

Majority of the people living in my village - Kovil veerakudi depend on agriculture. In spite of that, the youngsters are no more interested to take up farming as a profession. They see farming as a non-remunerative choice and migrate to nearby urban centers but do not succeed there as well. Soon they return back to the village with a lot of behavioural changes, roaming around lazily



Aravindan and Vijayakumar - leading by example

in the village. Presently farming is very hard because farmers spend a lot of money for buying seeds, chemical fertilizers, Pesticides. They borrow money from the money lenders but are unable to repay back.

The future of farming is a question. But I also see some positive signs for a bright future for farming. My village already has a youth club and functions well. Besides farming, youth engage in social works like cleaning of roads, school premises, health camps, etc.

We have an organic farmers club in my village and we are planning to produce bio- fertilizers like Azospirillum, Rhizobium, pseudomonas, trichogramme virudi etc. While these are some small initiatives at the ground level, at a higher level the government should also encourage the youth by supporting them and introducing new schemes for young farmers. They should motivate, recognise, and appreciate the youth to pull them towards agriculture by schemes and trainings.

“You also must do agriculture like Aravindan”. When I hear these words from other farmers in the village I feel very proud to be a farmer. For many parents in the village, myself and my brother are role models of the youth. As a farmer, I am very happy because I am supplying grains for my nation and I am not working against the environment. I would like to bring up my son as a farmer.

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This article was prepared based on the interactions with the farmers by Mrs Pangayavalli, Kudumbam, Tiruchi.

Shaping the change agents of future

Shreena Keswani, Neha Upreti and Gaurav Papnai

VSM is a unique model of development wherein young urban farm graduates are moulded to bring about a change in the agriculture scenario as change agents. This model based on ethics and social values is helping shape the lives of many young people making them socially responsible, professionally sharp and nationally proud.



It's evening at Pantnagar when students and faculty tend to retreat to their hostels and residences after classes. But it seems to be jubilant in the educational technology cell of the Department of Agricultural Communication where about forty students are still hanging around with some interesting task. The environment is cheerful and energetic. It is a Public Speaking Workshop where a group-process is in advanced stage. A peer group review of performance of each student, supported with critical comments of faculty members and self-analysis through video replay is going on in a tension-free environment. By the end, students get a complete analysis of their performance areas identified as strengths as well as deficiencies over which they will work in hostel to come prepared the next day.

'It's a regular routine for us' tells Dr. Shivendra Kashyap, Associate Professor in the Department, who is looking after activities of Educational Technology Cell. 'Its really encouraging to see students changing drastically by these scientific approaches of personality management. They are performing excellently even at national platforms. Our students have won National Cooperative Debate of NCCT continuously for last five years and National Elocution of National Agricultural Science Congress for last two years besides many other national achievements.'

He reveals that the personality management programmes of Pantnagar are designed not merely for employability and performance enhancement but for integrated development of life including ethical and spiritual being. 'The bigger concern is that of outlook and attitude of youth; speaking skills is merely a peripheral element. Ultimately, we are preparing development agents who are expected to work at grassroot level', he adds.

The genesis of Vivekanand Swadhyay Mandal

India has a vast youth population with great energies. But the energy of India's youth is largely getting scattered instead of being

concentrated in developmental efforts due to plethora of problems. The awakened and conscious youth is the only enduring resource who can find solutions to the varied problems of the country lying in the path of social and economic development of masses. The situation implies that a major task in front of the nation today is generating conscious, responsible and visionary youth who can lead the nation out of her multiple challenges earmarked in the millennium development goals. But the task of youth leadership generation is not an easy one.

Believing that the awakened and conscious youth is the only enduring resource of a nation, Vivekanand Swadhyay Mandal, popularly known as VSM, started working in Uttarakhand with the hub at Pantnagar University since 1999. The vision behind VSM approach is that the youth have inherent excellence which requires manifestation through proper environment or consciousness. To achieve this vision, a unique model based on valuing and promoting growth and learning, collaboration, inclusivity, diversity, openness, creativity, flexibility, innovation, and harmony has been standardized. VSM has the mission of shaping the lives of young people to make them socially dedicated, nationally proud, spiritually active and professionally sharp. VSM undertakes different kinds of activities round the year but with a central goal of evolution and growth of competent change agents among youth masses.

The replicable working model

The model is broadly based on the following major assumptions, which are the guiding principles of VSM.

- Leadership development is important because it provides members of a group with the skills, knowledge and abilities they need to more effectively work together to deal with issues facing a community or group

- Youth are capable of developing their leadership potential through the same processes (e.g. analyzing issues, increasing self awareness, developing skills, applying learning, etc.) as adults.
- People learn in different ways making it important that learning activities address a variety of learning styles.
- Participation in the global society of the 21st century will require people to appreciate and build on diversity, and to know how to work cooperatively and collaboratively with a variety of people.
- Effective implementation of programs requires involvement of the target group. This requires an inviting and inclusive mindset on the part of program planners, and means that the target group must be involved from the early planning stages upto the final implementation and evaluation.

The process has matured with time to realize that activities and endeavours are not only an attempt to help others to grow but are the underlying source of the growth of a team process. In other words, activities are the endeavour to emancipate and develop one self as well as help in the emancipation of others.

The individual growth process

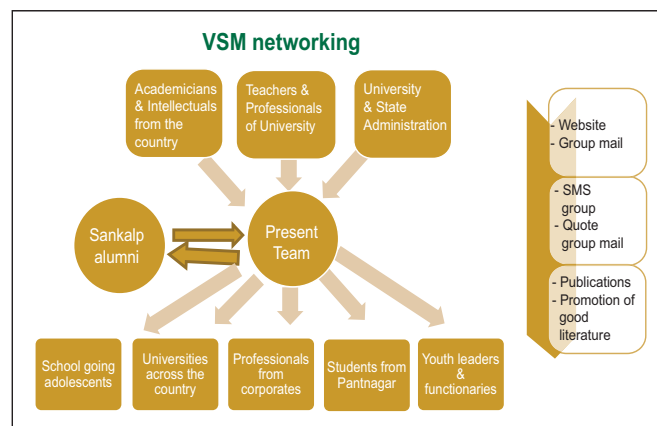
The three sermons for VSM process of youth development is:
INTROSPECT ----> ORGANIZE -----> EVOLVE

These stages are not independent of one another but are in a continuous cycle.

Introspection involves looking within yourself in order to understand your vision and setting your goals. Your ability to do this depends on how much evolved your thoughts are. The more evolution you gain, the better will be your clarity with respect to your goals in life. When clarity of the aim of life is established, then honing the necessary skills is essential by organizing oneself and orienting the talents according to it. Working towards the set goal with dedication and sincerity leads to evolution of abilities and better understanding of life and its purpose.

Thinking beyond the visible line and acting according to it comes naturally to students as their personalities undergo constant churning and training through the multiple activities of VSM which systematically provides continuous churning and training to imbibe perseverance, dedication and goal-oriented way of working, a potential to stretch beyond the set limits, management of events, team building, leadership skills, mentoring and multi tasking which gradually result in high self esteem, value based and vision oriented life, understanding national and social perspectives and so on.

A major task in front of the nation today is generating conscious, responsible and visionary youth who can lead the nation out of her multiple challenges.



The networking to assist youth work

The model indicates the interlinkage of professionals, administration, alumni group and present workforce of Pantnagar students clubbing together to generate potential to help youth masses from schools, universities, corporate sector and development organisations. This model is effectively working for last couple of years, bringing laurels to the University and the state.

The networking also utilizes ICT tools for planned youth mobilization where Website, e-groups, SMS groups and e-mails have been put into complementary and supplementary roles.

The activities

The uniqueness of the project lies in the concept and strategy of youth empowerment through cultural awakening and using ICT tools to bring thousands of youth together for self-analysis, helping them in setting right priorities, providing proper counselling, refreezing them with reformed thoughts & decisiveness and providing them proper follow-up for reinforcement. The concept of MICROLAB has been successfully utilized in the project, i.e., UNFREEZING-MOULding-REFREEZING the youth mentality for positive attitude, social responsibility and generating national character. It is about changing the outlook of youngsters to carve them as responsible citizens.

Let us have an eye on the plethora of regular activities which we undertake, each having its own worth and uniqueness, adding a new dimension to our lives.

Public Speaking Workshops for students

“The shell must break before the bird can fly”

The biggest hindrance to our capabilities is our own self, the barriers of unknown fears. With the intention of breaking this self-created shell, the 4-5 days Public Speaking Workshops are organized, where under the guidance of well trained facilitators (mentors), the participants are provided with such an environment in which they can free themselves up and move beyond those self imposed limitations.

The participants get a glimpse of their unlimited potential as they try step by step to face the public and ultimately succeed in the developmental journey which they demonstrate through their constant improvement.

Youth Awakening Festival YUVA:

"Youth have the capacity to fix the destiny of ages."

This is the single biggest event of the year where an effort is made to plunge the nation in a spirit of patriotism and rekindle the youth power of the country on the occasion of Swami Vivekananda Jayanti on 12th January each year. It entails a chain of events like National Debate competition, National Youth Symposium, zonal oratory and written quiz, competitions for school children, exhibition, rally and so on. The festivities culminate on Subhash Jayanti, 23rd January. During this period, a number of youth icons are invited to witness the events and provide guidance to the youth of the country. Students from sixty five universities including Delhi University, Jamia Milia, JNU, AMU, Tamilnadu Agricultural University, Anna Malai University, Orissa Agricultural University etc participated in YUVA 2011, held at Pantnagar in January 2011 which was organised around theme line- Youth Leadership Generation.

Sunday Service Classes for less-privileged sections

"Too often we underestimate the power of a touch, a smile, a kind word, a listening ear, an honest compliment, or the smallest act of caring, all of which have the potential to turn a life around."

Knowing that even a small attempt of ours can bring big difference to someone, VSM started Sunday classes of 2 hrs every Sunday morning – where students devote their time to teach the children coming from unprivileged sections of the society, solving their doubts in all subjects. Not just teaching but also sharing... understanding... listening and letting the hidden talents come out. In the process we also get their love and ownership of tiny tots which is the most surpassing experience.

Study Circle for self-illumination

"One needs to be illumined within in order to give light to others"

With the purpose of this intrinsic illumination, we have Study Circles for teammates every Friday. Way to learning is through power-point presentation, sharing and discussion and other group processes. Participants discuss and share their views on topics from diverse fields like causes of poverty, challenges of our nation, cultural strength of rural areas, MDG and accomplishments etc. and get enriched from each others' valuable thoughts and experiences.

Personality Development Workshops

"To know about a person, don't look what he appears outside, look inside at his character"

Our personality development workshops can be described as a microlab. It involves games and exercises to open up the participants so that they can participate freely and wholly. Activities and group tasks are taken for realization of the importance of a personality trait through some discussions, games, movie clips and presentations. Processing of activities is done very minutely by experts. It develops to generalization and applications steps smoothly. Trained facilitators among students support the activities. The workshops highlights traits like assertiveness, self motivation, leadership skills and so on.

Spread of thought-generating literature

"We are what we think..."

With the intent of making good books and literature accessible to university students and rest of the public, we put up a Book stall in All India Farmers' Fair organized twice every year in campus. The stall caters to the biblical quest of a wide variety of people by providing thought provoking literature. Added to this, are exhibitions related to our rich cultural heritage, moral values, eminent personalities' lives and words intended on making positive change in the visitors. The stall is totally managed by students where about 10,000 to 15,000 books are sold every fair.

Daily Yoga and Meditation session

"Give up all sorts of weakness for weakness is misery, weakness is death."

Physical strength and fitness is essential for the integrated development of personality. To realize this dimension of growth, regular yoga session is undertaken in the morning. In the end, we do meditation for a while to thank God for giving us a purposeful life. It is a very refreshing, healthy and pleasant start of the day and also serves to greet each other in the morning.

Guest Lecture series

"Let the fresh air come from all directions, let it enrich my soul."

To enrich the students of university with their invaluable words, eminent scholars and experts from various fields are invited to share their experience and proficiency with the students of the university.

VSM in practical life

Aashish and Vikash completed their graduation in agriculture from Pantnagar and joined Orient Bank of Commerce at Mathura. They have developed a deep and distinct relationship with villagers by their honest and dedicated approach. They also organise a range of activities for youth development in the village schools and colleges on their personal initiative. People applaud their efforts and leadership in mentoring village youth and pay respect to them beyond words. The VSM spirit promoted them to stretch beyond their professional limits to take leadership in the new area.

Ramanuj Mishra worked with Praxair in Bangalore after his graduation in agricultural engineering and masters from IIT, Kharagpur. He was a VSM leader since his first year of graduation. He revamped the corporate social responsibility segment of his company through his personal interest for which his company bestowed upon him, World Youth Leadership award with economic incentive as well.

Shilpi Gupta was placed at Mumbai in Tata Consultancy Services after her graduation from Pantnagar. She remained in touch of VSM for three years through regular training and mentoring. She voluntarily adopted a blind school in Mumbai on regular basis where she used to devote her Saturdays and Sundays. She learnt brail to teach the kids over there. She kept on visiting this school as her weekend engagement until she moved to USA after her marriage. She is still in touch of her Blind School.



The confident young members of VSM

Former President Dr. APJ Abdul Kalam, CBI Director Shri Joginder Singh, Ex-Governor Lt. Gen. S.K. Sinha, are among the notable personalities who have been invited to address the students.

Creativity Camps

“Unless you unleash your thoughts, how can you unveil the truth?”

Creativity Camp of Summers is a 15 days’ activity organized by us every year where small kids to elderly ones of university periphery-all can explore and discover the talents lying within and simultaneously get a platform to display the same. Training is imparted in 12- 13 different traits like dance, music, drawing, painting, stitching, calligraphy etc. to learn, share and grow simultaneously.

Learning from each other

VSM undertakes about three exposure trips each year to learn from our surroundings and from the good work done by great men.

Sankalp Alumni Meet is a confluence of younger generations with the older generations, that is, the annual gathering of the entire family. It’s a time to embrace our seniors and juniors, a time to introspect our renewed roles and a time to evaluate and plan for further activities. It is held once every year.

New Initiatives

VSM has recently expanded in corporate segment for sensitising the young professionals towards life skills with short term trainings. Three very successful and enriching trainings have been organized with support of experts from IIMs and other leading houses. Responses are encouraging.

A number of books have been published recently on various themes ranging from transcending life skills advocated by Indian culture and its great preachers to personality development, successful experiments on leadership generation etc, through the combined efforts of students.

The replicable-impactful model of youth work

VSM’s touch transforms the attitude and outlook of youngsters to go beyond their limits. Every VSM leader is a case to tell. Vivekanand Swadhyay Mandal is striving on regular basis to generate this rare spirit of dedication and devotion towards duty and responsibility in every circumstance. Hundreds of young students come in touch of VSM every year and feel blessed due to the rejuvenation and reorientation of life. Veterans call VSM, an University within an University, due to the scientificity and systematic approach. Presently, the challenge in front of VSM is to develop youth leadership to reap the demographic dividend in favour of agricultural development in particular and for the country in general.

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Graduating to farming

Vinayaka Rao

While farming has become unremunerative, more so with the disturbing climate change conditions, it is imperative that the government support be extended to motivate young farmers to stay in farming. This is crucial not only for creating rural employment but also for providing the food security of growing population of this country.

“Agriculture is no more a young man’s business” is an often repeated statement given at various seminars in the country. About two decades ago our planners were thinking about how to bring farmers out of his field. But the whole farming scenario has changed with the advent of globalization and liberalization policies undertaken by the successive governments since 1991. Opportunities to earn a better livelihood elsewhere is luring youth from villages to migrate to towns and cities in large numbers.

When I left the portals of university of agriculture sciences, GKVK Bangalore in 1991, I was dreaming about a white collar job in a multinational company befitting my qualification. I got a reasonably good job in a plantation company near Nasik in Maharashtra. Nasik is a rich horticulture belt where in fruits, vegetables, and onion are being cultivated very profitably. My interaction with farmers around our estate slowly kindled my interest to do something in this field on my own. However, I had to shift to Bangalore head office in 1995. My stay at Bangalore for 5 years brought aversion to city life. The ills of urban life forced me to think of resigning my well off job and settle at my native place. It was a hard decision to make and convince my near and dear ones. But I had made up my mind that my future lay in my roots. Now after a decade of practicing what I had envisaged long ago has given me so much of satisfaction that in spite of economic setback, I hardly wish to shift to greener pastures of city life.

Youngsters by and large are being attracted to the so-called lifestyle trends in cities like fast cars, flats, weekend parties etc. Their life has become so much of a routine that they struggle for 14 to 18 years everyday for five days a week and try to spend as much possible later. If the trend has to be altered, the Government has to take concrete steps to encourage young farmers to involve in agriculture.

Farmers in Brahmana Manchale village in Sagar taluk, Shimoga district were facing severe labour problem and incurring high costs for transporting FYM from households to areca plantations. In such situation, about 20 young farmers formed a Raithakuta which is led by Mr. Subbanna. They approached AGM, NABARD, Shimoga branch, who after making a field promised to part -finance the project. He also facilitated the group to access the balance amount as a loan from the local Pragathi Grameena Bank. Now, the farmers are also enthusiastically contributing 20% of the project cost.



Vinayaka Rao on his naturally mulched farm

Presently, climatic fluctuations, reduced fertility of soil, inadequate irrigation facilities, costly agri-inputs, non-availability of labourers, insufficient market information, un-remunerative price pattern and huge gap in technical knowledge transfer is forcing the cultivators to look agriculture as a mere tool to survive rather than take it up as a profitable venture. Besides, the unstable market is a curse wherein farmers hardly get a remunerative price for the small marketable surpluses. Moreover, a few traders or transporters try to manipulate the demand and supply chain mechanism. In India, farming is the only sector where price of a commodity is not decided by the producer, while in every other sector it is so. A little bit of market support from the government may go a long way in making it remunerative. For instance, in Karnataka, support price for maize alone has worked as a wonderful incentive for farmers because they are assured of guaranteed returns and fixed market in APMC yards. If the same concept is extended for all other agriculture and related goods, then farming as an occupation may survive.

Farming is the only sector where price of a commodity is not decided by the producer

Efforts are also needed on part of the numerous NGO’s and agri-input producers to help young farmers to carry on this profession. Trainings and motivational courses on successful farmers field is one such method where in on field demonstrations can stir many to adopt better practices to raise crops. NABARD, the premier agriculture banking institution in the country is giving a lot of encouragement by enabling farmers to form **Raithakutas** and provide finance through local banks. (see box)

There are several models like the one described. These models should inspire the young farmers to stay in farming. There is no other profession as holier than this because without the farmer and his land no one will survive on this earth. Everybody in big cities and towns will be starved to death if the farmers decide to stop supply of all agriculture produce for a fortnight.

B R Vinayaka Rao

Sagar Taluk, Shimoga District, Belur – 577401, Karnataka

Youth in farming



Globalisation and WTO have resulted in the youth of our country losing interest in agriculture and going into cities to earn more money. The villages are becoming poorer and poorer and only old people are left there to do the agricultural operations. During the past two years, cost of food items like grains, pulses, oil and vegetables are increasing, month after month. China which has the second highest rate of economic growth and the first highest population becoming consumeristic, may need huge amounts of food and other items for which India has to pay a huge price to provide food security for its population. Hence, it is very important for the administration and the people to give top most importance for agriculture production. But this does not mean that huge external input oriented agriculture production. Family farming is the best approach for any country and particularly for India, to produce agricultural products economically, utilizing locally available resources and crop residues and manpower very efficiently and sustainably. But all of us think that industrial type of agriculture could produce food economically. In reality, external input agriculture needs and consumes fossil fuels which are very scarce and very soon may not be available.

Again use of any external inputs causes global warming due to long distance transport. Hence, younger generation has to think twice before going away to cities to get higher wages. If integrated system of agriculture is adapted like tree cropping, animal husbandry, agro forestry and food production, which are interdependent and self supporting, farming can be economically viable and sustainable. Because of “green revolution” technology lands have been degraded due to loss of humus, resulting in poor soil water holding capacity and the destruction of soil organisms and soil regenerating processes, demanding more and more agro chemicals. Punjab and Haryana are the examples of destructive external input agriculture. Fortunately, youth are getting into agriculture in a small way. But, for them it is very important that small scale farming or family farming is very important to be free from external inputs and in getting their soils become more productive year after year. Agriculture should not be compared with other professions only on economic gains. It is the noblest profession as there is no subordination to anybody except to nature, leading to lot of happiness and contentedness. But, with experience, I would suggest youth to visit many successful farmers and may be, work with them, before starting farming.

Beginners should go slowly at least for two years to understand and gain confidence in various aspects of farming. They should love and respect the land and nature and adapt a simple lifestyle. Dedication and involvement are very important for success in any

Agriculture is the noblest profession as there is no subordination to anybody except to nature

profession particularly in agriculture. Subsidiary occupations like apiculture, aquaculture, sericulture, nursery, backyard poultry, goat rearing, sheep rearing, Dairy, Piggery could contribute in the economy of farming utilizing agricultural by-products. Youth should cultivate the habit of marketing directly to the consumers by value addition to their products. Vegetable cultivation under shade net and plastic sheets to produce good quality vegetables during odd seasons is a good practice to make better profits. Agriculture shall be a self sustainable occupation free from debts and tensions. It is very very important to make their own seeds and manure and family labour adds a lot of support for economic and sustainable farming.

Shri Narayana Reddy is a legendary organic farmer and is one of the most sought after resource persons on ecological agriculture.

L Narayana Reddy

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Indian Youth in a Transforming World: Attitudes and Perceptions

edited by: **Peter Ronald Desouza, Sanjay Kumar, Sandeep Shastri.**

Published : May 2009; Pages : 208; Size : Crown: 7" x 10"

Imprint : SAGE India; Rs 695. ISBN: 9788132101710

This book comprises the first nationwide study based on face-to-face interviews with 5,000 youth to capture the popular mood of this important demographic segment of contemporary India. It records their perceptions of various issues, ranging from modernity, development, globalization and unemployment, to leisure and lifestyle, social networks and family, and their hopes and aspirations for the future.



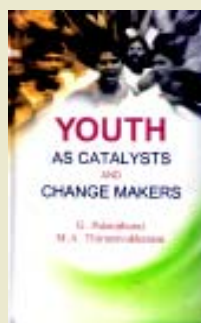
The book underlines that Indian youth reflect an authentic multiplicity of aspirations, 'world views' and interest, quite like the rich tapestry of India's diversity. It indicates that they are a mix of continuity and change. However, they stand distinct in many ways from the youth the world over.

This book is also likely to break some myths related to the youth, opening avenues for new debates. For example, it reveals that there is hardly any decline in interest in politics between today's youth and the previous generations. At the same time, it also helps strengthen some commonly held perceptions about the youth.

The book would be invaluable for professionals in advertising and other sectors of the media and all those involved in market research. Students and teachers of specialized psychology courses, behavioural sociology, political sociology, will also find it useful.

YOUTH As Catalysts and Change Makers by Prof. G Palanithurai and Prof. M A Thirunavukkarasu Published by Concept Publishing Company (P) LTD. Website : www.conceptpub.com, 2010, 296pp, ISBN : 978-81-8069-682-4, Price: Rs. 750.

This book attempts to document the leadership role of the youth at the grassroots level in India. Containing narratives of the volunteers, mostly general and the poor in particular, it discusses at length how they struggled to achieve success in their war against corruption, gender inequality and social injustice.



Also, it deliberates on the Gandhian model of development, crisis management and role of youth in strengthening the panchayats.

World Report – Youth and Climate Change

United Nations publication, ISBN 978-92-1-130303-2, Copyright United Nations, 2010. Printed by the United Nations, New York

This publication is available for download at www.un.org/youth

Climate change is one of the defining challenges of the twenty-first century. It is a challenge that is global in both its impact and its solutions but one that is not shared equally, as developing countries are likely to be among the most seriously affected by and the least able to address the consequences of climate change. Climate change touches every aspect of life and impinges on development efforts, with consequences ranging from immediate to long term. Major adjustments are required to promote more sustainable patterns of production and consumption

at both the collective and individual levels. Solid evidence exists that climate change will have a more serious impact than initially anticipated and that adaptation and mitigation will entail significantly higher costs if action is deferred than if the problem is addressed now.

Addressing and adjusting to the challenge of climate change is certain to be a defining feature of the future of today's youth. It is therefore critical that young people educate themselves and become more actively involved in combating this threat.

The present *Report* is designed to assist youth and youth organizations in such an endeavour. It is also meant to affirm the status of young people as key stakeholders in the fight against climate change. The publication comes at a time when efforts to address climate change are receiving unparalleled attention in the international arena, offering youth a unique opportunity for their voice to be heard in the debate.

Employment For Rural Youth In Asia And The Pacific - Jobs And Empowerment On And Off Farm Opportunities In The Rural Non-Farm Sector In India

© Education Development Center Inc. The document can be downloaded from yesweb.org/docs/rdbook.pdf

The forces that shape and influence youth today will be the forces that dominate our world tomorrow. Youth look not only for a livelihood, but for dignity and for purpose and meaning in their lives. They are as easily seduced by evil doctrines, as they are by positive and constructive ideologies so youth can be a country's weakness or its strength.

This booklet will try to provide some answers. It aims to look at some of the root causes of rural underdevelopment and to outline some of the approaches that have been successful in the promotion of youth employment. It concludes that skills and jobs are not enough. Initiatives for rural youth employment must include elements of empowerment for youth and mechanisms to promote a sense of achievement and self-worth among young people.

LEISA India in regional languages



With an increasing demand from our readers for local language editions, LEISA India is now being brought out in five language editions – Hindi, Tamil, Kannada, Telugu and Oriya. These regional editions include translations of selected articles and are published twice a year – June and December.

From Green to Evergreen Revolution Indian Agriculture: Performance and Challenges by MS Swaminathan, 2010, Pages : 410; ISBN - 978-81-7188-797-2; Price: Rs. 1195.00 / USD 79.95

Indian agriculture is at cross-roads. At one end, is the problem of ecologically unsound public policies which have led to deep ecological distress. On the other, despite large number of nutrition safety net programmes introduced by Central and state governments, India still remains the home for the largest number of malnourished children and adults in the world. The need of the hour is to convert the green revolution into an 'evergreen revolution' by mainstreaming the principles of ecology in technology development and dissemination. India also urgently needs to focus on developing a sustainable and equitable food security system.

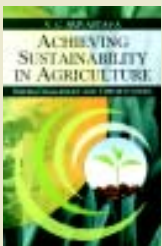


Authored by Prof. M.S. Swaminathan, a world scientist of rare distinction and a living legend, this book stresses on considering the problem of food production holistically. Evergreen revolution along with small farm management revolution are hence the most important ingredients for hunger-free India movement. Swaminathan's consistent point has been, "rather than predicting the future, it is our job to shape it."

"This wonderful collection of essays, both a tour d' horizon and tour de force, describes in multifaceted ways the key components of an ecologically sound, evergreen revolution.... Swaminathan's wisdom is not readily summarized, so my best advice is to read carefully, and savour and ponder these essays!" – *From the Foreword by Jeffrey D. Sachs*

Achieving Sustainability in Agriculture : Issues, Challenges and Opportunities by V.C. Srivastava, Agrobios, 2010, xvi, 348 p, ISBN : 978-81-7754-414-5, Rs. 1,595.00

Global population was only one billion in 1800 AD, doubled by 1930 and reached three billion mark by 1960. However, it took only 39 years to double itself again by 1999, when it reached to six billion mark. It is estimated that by 2100 it will again double itself to twelve billion mark. Most of the future increase in population will be in developing countries of Asia. Africa and Latin America, where more and more area under agricultural production systems have been developed at the cost of natural eco-systems, which gradually deplete the soils of organic matter, nutrients and water, making them unsuitable in the long run leading to the question on their sustainability. Sustainability is generally seen as human oriented, long-term and involving interaction with natural systems. A sustainable agricultural production system must, therefore, produce economically the needed food, fibre, feed and fuel without depleting the natural resources and without deterrent to environment. It must discourage regional imbalance and encourage gender equality.



Through a large amount of information has been generated on various aspects of sustainable agriculture, they are scattered in literature. Thus, a compilation of available information has been strongly felt keeping in view the requirement of students, teachers, research scientists, administrators and those interested in the subject. The book contains chapters on sustainable agriculture, farming systems, agro-forestry, organic farming and crop and environment. The chapters have been arranged systematically, simple to understand and comprehend in an integrated manner.

Agrarian Distress In India – Problems and Remedies by Dr. B C Barah and Dr. Smita Sirohi, Published by Concept Publishing Company Pvt. Ltd. Website : www.conceptpub.com, 2011, 284pp, ISBN : 978-81-8069-765-4 Price: Rs. 700.

This book is an outcome of scholarly contribution from the eminent academicians and policy researchers. The whole book is divided into five sections according to the major theme covered in the chapters.

This book critically examines and identifies the reasons for distress, its intensity, the opportunities to avert or minimize its adversities and derive policy strategies to harness opportunity to avert crisis in rural areas, divided into distinct sections. Although the technological solution has been indispensable to bail out the small farmer-oriented agriculture from distress, but the moot question is how to reach out to the ground level for effective inclusiveness. The spread of benefits of policies required to be designed for more inclusion, rather than skewed in favour of powerful sections.

The book provides enough material and will be of immense interest to researchers, scholars, policy makers and the farmers of the country to gain more insights into the burning problem of rural India.

Understanding climate change from below, addressing barriers from above: Practical experience and learning from a community-based adaptation project in Bangladesh by M Sajid Raihan, M Jahedul Huq, Nana Gerstrøm Alsted, Manja Hoppe Andreasen (2010), Action Aid Bangladesh, December 2010; ISBN: 978-984-33-2252-5; 102 pages.

In recent years, Bangladesh retained steady growth and attained commendable results. But these success stories become blurred with the recurring events of more severe and frequent natural calamities, which are believed to be a direct result of climate change. Considering these extreme events, Denmark responded immediately to the challenges of climate change and left no stones unturned to assist the Government and resilient people of Bangladesh in their combat against climate change. A project lending assistance to local communities to adapt to climate change implemented by ActionAid, Bangladesh is one of the immediate initiatives.

The pilot project started in 2008 and continued till December 2010 focusing on harmonization of traditional local knowledge and scientific knowledge to enable inhabitants of three districts located in three areas of Bangladesh vulnerable to cyclones and surges, floods and droughts for climate change adaptation. With the lessons learned from the first phase, the second phase is ongoing.

Adaptation is not all about immediate survival; it is a continuous process of seeking sustainability in the face of change. The sought outcome of the project was not only to address the immediate need of the beneficiaries but also build their self reliance to make adjustments in their life and livelihoods for future sustainability.

This publication 'Understanding climate change from below – addressing barriers from above- Practical experience and learning from a community-based adaptation project in Bangladesh' emphasizes on the first hand lessons learned from the action research project titled 'Assistance to Local Communities on Climate Change Adaptation and Disaster Risk Reduction'. The report analyzed the strength and weakness of community mobilization activities for climate change adaptation and also suggested a set of future actions both at policy and implementation level.

Building social capital by investing in rural youth

B V Joshi and K V S Prasad

Youth provided with appropriate training and opportunities, have the capacity to engage in activities that bring both economic and social benefits. Building human resources is an investment that can reap rich dividends. AMEF with its focus on rural youth shows the way.



Ramesh Kumar is an enthusiastic youth, now in his late twenties, living in Balamande village in Kolar district in Karnataka. He hails from a farm family which has been living on three acres of dry land growing crops like ragi, castor, groundnut, bajra and *saame*. In spite of belonging to a farm family, Ramesh was not keen on farming.

Life took a turn when Ramesh lost his father and had to take the family responsibility. Being a graduate, his natural choice like any youngster was to find a job. He succeeded and worked as a security

guard, a baker boy and in a gear company but found himself unable to meet the ends of the family. He returned back to his village.

Learning on the field

Ramesh owing to his education was chosen as a book writer for self help group organized by MYRADA, an NGO. After an year, he got involved in development projects being implemented in his area. This provided an opportunity to interact with the farmers and understand many aspects of farming. A desire to farm his land started to grow.



Learning by experimenting

Training rural youth as Sustainable Agriculture Promoters

AMEF believes that season-long Farmer Field School is the one of the most empowering processes to bring about a change in farming practices through changed mind sets. This calls for a strong base of change agents who are well trained in this FFS process. When AMEF planned to train local human resources in FFS it was also aware of the fact that there existed a large proportion of the population who are young and disinterested in farming. Seeing them as a potential to sustain and spread sustainable agriculture in villages, AMEF started identifying and training rural youth with the following assumptions and strategies

- Youth get interested in farming when they 'experience' better farming practices – Training in FFS provides this experience
- Youth look for leadership role in communities - Building their capacities not only as practitioners but also facilitators of learning processes like FFS and rural farm guides gives this opportunity
- Youth aspire to be unique and recognised - Ecological approaches help them to be different as well as successful in more than one way
- Youth look for unique learning methods – They get interested when the learning processes include studies, group exercises and games – AMEF Farmer Field Schools and Participatory Technology Development (PTD) processes create several such learning situations

AMEF has been involved in organizing intensive, experiential learning based medium and long term training of youth as farm guides and facilitators. (15 day Short Term Training of Facilitators and even some season long training of facilitators too). These youth are selected from villages, undergo the training and go back as farm guides back to their own villages as well as neighboring villages. They not only practice eco alternatives but also pick up facilitation skills of participatory learning processes like Farmer Field Schools. They get involved in conducting Farmer Field Schools as well as sharing events like study tours, field days etc as part of their learning. They serve as Sustainable Agriculture Promoters in development programs. Thus, with enhanced understanding of concepts, technical, social as well as organizational skills they not only practice eco-friendly farm alternatives, also serve as farm guides and facilitate learning events. As a result, they experience enhanced self respect among their own communities. Primed with Knowledge, they become lifelong assets in the community. Also, they also help in considerably bringing down the intervention costs. So far, around 500 rural youth have been trained and involved in various programs. They have been actively involved in SRI promotion in AMEF programs in three southern states. They are not only serving as rural resource persons in AMEF, other NGOs as well as resource persons in mainstream development programs like ATMA farm schools.

In 2007-08, AME Foundation, an NGO promoting sustainable agriculture started working in his area. Simple technological options like azolla, vermicomposting etc were being promoted among interested farmers. Ramesh, owing to his enthusiasm and interest in farming, was identified as a person who could help in reaching farmers with these technologies. He was first trained on Azolla cultivation and vermicomposting. Before training other farmers on these practices, Ramesh first tried them out on his farm. He built 2 vermicompost units as lots of raw material was available in and around. Starting on a small scale, he continued producing vermicompost. He used it for ragi crop and was excited to harvest 12 quintals from an acre of land. Later, he also guided a number of farmers in producing and using vermicompost and azolla.

Later in the year, he got involved in another project promoting tank silt application for improving soil productivity. After getting trained, he conducted around 15 trainings in surrounding 12 villages. He guided members of around 20 SHG groups in improving the organic matter of soils by using tank silt. His constant interactions with the farmers guiding them in various aspects, helped him gain a thorough understanding of the field situations. His confidence in farming also got boosted.

Meanwhile, AMEF started building the capacities of rural youth in sustainable agriculture. Building social capital in rural areas

was a strategy adopted by AMEF for ensuring sustainability of the sustainable agriculture interventions that AMEF had initiated (see box). In 2008, Ramesh was identified and trained by AMEF in STOF (Short term Training of Facilitators). The 15-days training focused on Farmer Field School Methodology and also built in the facilitator skills. Ramesh along with others learnt many things related to ecological farming. More importantly, the training helped him to understand various aspects of resource management and pest and disease management by practical methods like Agro ecosystem analysis (AESA), short term studies and long term experiments. His outlook towards farming changed. Inquisitiveness and the spirit of experimentation in him was aroused.

Youth get interested in farming when they 'experience' better farming practices – FFS enable them to gain this experience

In 2009-10, he learnt the nuances of SRI method of paddy cultivation. He further trained farmers of surrounding 15 villages on this specific method. He also started practicing SRI in paddy on his own farm and reaped benefits.



Ramesh guiding farmers in SRI paddy cultivation

Presently, Ramesh works as a Sustainable Agriculture Promoter (SAP) in five villages of Balamande gram Panchayat spreading sustainable agriculture practices among more than 1200 farmers in the region. He is an efficient FFS trainer who has been conducting FFS in tomato, ragi, paddy and groundnut crops.

Spreading far and wide

Equipped with skills and knowledge, Ramesh is a sought after resource person in the region. He is recognized by different government departments like agriculture, veterinary and horticulture. He served as local resource person for FFS, and successfully tested groundnut crop varieties through trials in the the ATMA-Agriculture Technology Management Agency implemented by Govt. of Karnataka

He is not only earning well in farming but is also motivating and helping other farmers in practicing sustainable agriculture methods. He insists other youngsters to take up agriculture as a profession. Every year he organizes youth to visit Krishimela, a Farm Exhibition to motivate them into farming. He also helps in linking farmers with Raitha Saparka Kendra (RSK) for getting inputs for

farming. As of now, more than 150 farmers benefited from the departments in different schemes.

Today, Ramesh is a happy person living with his family in his village. His self esteem and self worth are quite high as he feels he is leading a purposeful life. He is recognized as a committed and research oriented leader among his peers. No wonder he is a role model to the youth in his village.

B V Joshi and K V S Prasad

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