

The following case study was received as a result of a call issued by the Committee on World Food Security for case studies highlighting examples of initiatives aimed at 'Developing the knowledge, skills and talent of youth to further food security and nutrition'. The cases received provide the background for a discussion of lessons learned and potential policy implications at a special event on October 15th, 2015 during CFS 42. Find out more at www.fao.org/cfs/youth.

**ZERO BUDGET NATURAL FARMING METHOD IS A GENUINE SOLUTION TO BUILD KNOWLEDGE, SKILLS AND TALENT DEVELOPMENT OF YOUTH TO FURTHER FOOD SECURITY AND NUTRITION
BY-PACHE NANJUNDASWAMY**

Background: The global population is increasing by 80 million every year, and the global rain supplies are decreasing, at the same time, the green scenarios has doubled the food prices, pushing 100 million more human beings below poverty line around the world. The green revolution of the seventies brought a surge in Agricultural productions. It was good while it lasted. Today after 4 decades, the result is glaring at our faces. There is total annihilation of friendly soil microbes, utter degradation of agricultural lands, destruction of natural biodiversity by excessive use of chemicals and pesticides are disturbance of balance and harmony in the natural environment. The green revolution of the seventies also played a dangerous role in destroying food security and nutrition and at the same time the quality of human health also got destroyed. This green revolution even became a main reason for the millions of Suicides of Farmers in INDIA.

To bring Environmental awareness and to promote the importance of agroecology, food security and nutrition, La Via Campesina in association with South Indian coordination committee of farmers movements, Karnataka state farmers Association(KRRS) and Amrita Bhoomi, a centre for sustainable development had organised a Field Trip of Asian farmers in November 2011.

During this trip, many field visits and seminars had been organised in various parts of Karnataka, where thousands of rural young small scale producers and women had also participated. After attending the field trips and the seminars, many had got inspired and also implemented "Zero Budget Natural farming method"(ZBNF) in their farms and have achieved safe, diversified food security and nutrient rich food crops.

This type of Agriculture method was discovered by Mr. Subhash Palekar from Amaravathi district of Maharashtra. This method could be defined as an inspired version of Mr. Masanobu Fukuoka from Japan (The Book,"One straw revolution" fame)

Among these youngsters, 4 persons who live in H.D.kote taluk of Mysore District in Karnataka, India, were chosen. After visiting their farms, I have prepared this case study. These four young men started Natural farming, when they were doing their graduation and now they are completely into farming.

The names of them are V.Mahesh and R.G.Gopal Raju from Ramenahalli village,Bhaira Naika from Chakahalli village and H.M.Dhanaraj from H.D.kote town.

Challenges: The Small scale Producers who have implemented ZBNF method, their transformation from Chemical farming to Natural farming were very simple. They stopped all types of chemical fertilizers and pesticides. They used only Native seeds. They covered the entire farm with dead leaves and Branches to slowdown moisture evaporation. By Encouraging Natural Decomposition, they left the rest to the agents of Nature.

Small farmers are well aware of the long time impact of Nature Farming and its benefits. But the immediate challenge is, how do they sustain for five long years which requires the total transformation from Chemical farming to Nature farming. However well to do farmers have started to adopt Nature farming as part of their lands and develop nature farming in 2 or 3 faces.

So, the biggest challenge, the Small scale producers are facing today is, how to reverse this trend? The trend can be reversed by the activities organised by the farmers groups which are mentioned above, who are bringing Environmental awareness by leading in the front. Indeed, a good step towards ecology protection will be a great approach for the very survival of human species.

Approach Used: Many of the multinational companies declare that a good yield is possible only by hybrid and Genetically modified seeds, chemical fertilizers and pesticides. Even Indian farmers in large number also had swayed away by such statements. Some of the farmers quite early realised that, it is true only in the initial 3 to 8 years. But in the long run the Chemical constituents destroy the friendly soil microbes, ants, birds, butterflies, snakes, earth worms and many more species in the food chain and make the soil barren or infertile.

Self sufficient and self reliant small scale producers community which was there before the independence of India, has become like a virtual slavery depending entirely on the Multinational companies.

Outcome and Impact Achieved: After observing and analysing the Success and the achievements of these small scale natural farmers, around 5 to 10 neighbouring small farmers also started implementing Zero budget natural farming method.

The youth got benefited from the following genuine reasons:

- (a) In general, the farm is a zero input natural farming system of perennial crops. (b) It is sustainable subsistence farming that can be opted by marginal farmers who cannot afford high inputs.(c) The Farmer is not incurring any loss but making profit all these years.(d) The farm is covered with a Thick layer(about 9 inches)Leaf litter Produced by the weeds and falling leaves and twigs from the tree species which is undergoing natural recycling by multitudes of soil organisms like earthworms, insects and fungi found in the soil.(e) As there is no external manipulation, the diversity of fauna and flora including micro organisms is found to

be very rich(f) The leaf litter is acting as very efficient mulching preventing soil erosion (g) Rainwater Percolates along with roots and recharges ground water aquifer.

Because of multi story pattern, carbon dioxide sequestration is estimated to be 1085 tons annually by trees species in the farm totaling about 3069 trees, arecanut, coconut, and mango trees appear to be very healthy with luxuriant yield of crops. Banana plant with average bunch weight of 40kg is very good indicator of the richness of soil fertility.

I felt that the experiment of these small scale Natural Farmers in the Natural farming method has got many positive points to relieve our small scale producers from the clutters of chemical industries which are responsible for the increase in the cost of production of agricultural yields.

These Small scale Natural Farmers say that, the real tillers are the microbes, ants, insects, earth worms and other dwellers of the soil, left undisturbed for a few years they will do wonders to the soil. Within 3 years the plants flourished in the natural state without the help of the so called scientific methods that require expensive inputs like hybrid and genetically modified seeds, fertilizers, and pesticides.

So, gradually the ecology became enriched with its habitat. Because of the enrichment of the ecology, the land started giving good yield. Finally the nutrition got improved through the good yield which was got by naturally enriched ecology. Therefore getting a good yield from naturally enriched ecology is nothing but, regaining a good amount of natural nutrition.

Lessons Learned/Opportunities for Scaling-Up: Looking back at these young small scale farmer's experiments, reminds us that creating or destroying Biodiversity is at the hands of the Human species. Never before has one species influenced the environment conditions, all over the planet to such a magnitude. The human species now use an astounding 40% of the planet's annual net photosynthesis. The consumption of 2/5th of the planet's net food resources by one species is incompatible with biological diversity and stability.

Human beings are Directly responsible for fragmentation of natural habitats, over exploitation of plant and animal species, industrial pollution, draining of wet lands, declining water tables, excessive use of chemicals , all resulting in Global warming and climatic change.

Today, these young small scale farmers Proudly repeat their popular quote "we have zero input and maximum output".

Zero input simply means: It is the expenditure of expensive hybrid seeds, fertilizers, advanced modern equipments and above all, annual labour. All these costs money which is conveniently passed on the hapless consumers. Hence, the Natural farming Method is a "Penny saved is a Penny earned". The small scale Natural farmers can afford to sell their Agricultural Products relatively cheaper in the market.

In the long run, the significant impact of natural farming is:

1. Preservation of Natural Biodiversity
2. Better Human health
3. Inexpensive Agriproducts

These Farmers say even the water used in natural farming method is far far less compared to the so called advanced farming methods. The only input that they abandoned is the use of Sunlight and fortunately they do not have to pay for it and in the final tally, the input does remain zero.

Maximum output means: Do they achieve maximum output from zero input? Well, the annual yield is 3 times more than the enviable neighbours, who are following chemical farming due to many compulsions. By experimenting like this, these young small farmers achieved food security and nutrition in their region.

This type of Safe Farming method, also could be called as "Climate Smart and Successful Eco Friendly method of Agriculture"

The Role of Young Women: Actually, the peasant women who live in India, they live with the family in the farm. They grow their food and ingredients, which are required for their daily cooking. Their contribution towards conserving biodiversity is more compared to men because they preserve seeds, because it is also very much required for the daily cooking. They play a great role in controlling the wastage of food. They are the original inventors of the receipes. Women always have fore thought about the life of the future generation compared to men. Women have a lot of comparison with the earth because, they are the "Life givers" to the mankind. That is the reason the earth is called as "Mother earth". In this case, the sisters of some of these small farmers have cooperated, by doing all such jobs.

Policy Implications: To safe guard and enrich the ecology, water conservation should be given primary prominence. The Governments should give encouragement for building the Lakes, Ponds and check dams to recharge the underground water, which is under depletion.

To promote and encourage successful Chemical free Natural farming methods, the Governments should provide good amount of subsidies for the farmers.

The Agricultural universities and the Government's Agriculture Departments should organise training programs about Chemical free safe farming methods to build knowledge, skills and talent development of the youth and women.

The Governments and the Markets should announce fair and scientific price to the agricultural food products .The price should be announced by valuing the hard work and the investment made by the small scale producers. The market should be a seller's market, not a buyer's market and it should be free from middle men's exploitation.

In each and every town, good quality of storage and refrigeration units should be established by the Governments to avoid food losses and Waste.