

Budget & Zero Budget Farming

- Kapil Shah and Bharat Mansata

It is indeed most welcome that our Finance Minister, Nirmala Sitharaman spoke about 'Back to Basics' and 'Zero Budget Farming' in her union budget speech. However, her significant though cursory remarks need a much closer examination, especially to understand the basics of farming with minimum or zero costs, avoiding market purchased external/industrial inputs.

History of "Back to Basics"

In 1940, Sir Albert Howard, who worked many years in India, wrote in his seminal book, 'An Agricultural Testament: "I regarded these (Indian) peasants as my professors. I learnt from them how to grow healthy crops, practically free from disease, without the slightest help from artificial manures or insecticides."

Soon after Independence, and before the 'Green Revolution', Krishi Pandit award winning farmers achieved remarkably high yields of paddy (51.2 Q/Acre), potato (272.8 Q/Acre), pearl millet (17.2 Q/Acre), gram (10.8 Q/Acre), jowar (38.4 Q/Acre) and wheat (37.6 Q/Acre), as per Indian Government records.

Unfortunately, foreign trained agricultural scientists, rather than these *Krishi Pandits*, were given more importance. From about 1966, India thus took the path of so-called modern technologies, using agro-chemicals and irrigation-responsive varieties; and today, we have reached a kind of farm related calamity. The very natural resources, without which farming is impossible, are either polluted, degraded, or have been mined to grave depletion. Many distressed farmers are committing suicide. The yield has almost stagnated. The 'father' of India's 'Green Revolution' described this phenomenon as "technological fatigue". Health issues due to poison contaminated foods are evident. Climate change is adding to the crisis. The Food and Agriculture Organization (FAO) of the United Nations (UN) plainly concludes, "Business as usual is not an option. Agriculture needs a paradigm shift".

'The World Agriculture Report', or 'IAASTD Report', was prepared by 400 agricultural experts and nearly 1,000 multi-disciplinary reviewers from all over the world, with representatives from 56 countries, including India -- and also FAO, World Bank, WHO, UNDP, UNEP. It recommended that small-scale farmers and agro-ecological, organic methods are the way forward, with indigenous knowledge playing an important role.

It added: "Biotechnologies should be used to maintain local expertise and germplasm so that the capacity for further research resides within the local community. Such R&D would put much needed emphasis onto participatory breeding projects and agro-ecology."

Professor Bob Watson, Director of IAASTD, declared: "We are putting food that appears cheap on our tables; but it is food that is not always healthy and that costs us dearly in terms of water, soil and the biological diversity on which all our futures depend."

India is changing:

Government policies and financial support – with massive subsidies and grants – still overwhelmingly favour chemical agriculture and the GM-leaning Department of Biotechnology, whose unrelenting promotion of GM crops remains a cause of great alarm. At the same time, responding to the global trend, the NDA Government has in some ways supported organic farming more than previous Governments. Under the 'Paramparagat Krishi Vikas Yojna' (PKVY), adopted since 2015, farmers are encouraged to stop using agro-chemicals and GM seeds. At least 14 states in India have organic farming policies and Sikkim has been declared as the "first organic state in the World" by our Prime Minister. Gujarat has already established an Organic Agriculture University (perhaps the first of

its kind in the world), and many states have special cells or schemes to promote organic farming. This “back to basics” in farming, may also be considered as ‘post-Green Revolution, and most modern agriculture’, as it is a more holistic systems approach, compared to the narrow reductionist approach of the past.

Basic Principles and Guidelines:

Following are some proposed principles and guidelines in the quest for “back to basics”, much needed to achieve the Sustainable Development Goals (SDGS) of the UN.

1. **The cost of production must be reduced.** Farmers, or the local community, must produce their own agri-inputs to avoid the erosion of rural wealth.
2. **Science and ecological, farmer-friendly technologies for agriculture** should be developed and widely adopted to conserve and regenerate natural resources; and to help mitigate and adapt to climate change.
3. **Local communities should enjoy priority rights** and fair equity with respect to their local natural resources of land, soil, water, forests and biodiversity; and also empowered to fulfill their responsibilities to collectively safeguard and regenerate these, especially their commons.
4. **Nutrients, water and energy required for crop growth should be recycled** as locally and efficiently as possible. Particularly important are ground water recharge, rain water harvesting and the conservation and regeneration of forest and biodiversity. Diversion of land and water for non-essential uses must be eschewed; and the degradation and erosion of soils must be arrested on a war footing.
5. **Farming must be made more remunerative.** Agro-processing and value addition should be done at the rural/local level, preferably without any synthetic chemicals. Direct marketing to consumers should be promoted, particularly through local/regional farmers’ markets.
6. **Sufficient nutritious, poison-free, diverse and affordable food** must be produced for all. Poly-cultural/bio-diverse farming, also integrating trees and perennials, should be promoted and supported.
7. In contrast to ‘copy-paste western industrial technology’, promoted through the Green Revolution, **farmers should be encouraged to be innovative** in adapting or developing locally suited ecological technologies.
8. **Appropriate traditional knowledge** and practices must be documented and revived as a priority, particularly folk knowledge and bio-culture related to India’s wealth of biodiversity.
9. **Urban and peri-urban agriculture** should be encouraged, and **agro-ecology integrated at all levels of education.**

The birth of the Organic Farming Movement in India, post Green Revolution:

Shri Bhaskar Save, the globally honoured visionary farmer from Gujarat, started experimenting and progressively adopting the natural way of farming from 1956. He taught that organic matter in the soil should be enhanced to build optimum carbon level and avoid soil erosion. This would also reduce the need for irrigation. Farmers should recycle all non-edible crop waste back to the soil. Beneficial soil organisms should be nurtured *in situ* for soil health, following nature’s way; and a robust eco-system should be regenerated by inviting beneficial micro and macro fauna to control pests, enhance soil fertility and improve pollination. **Mother Nature is the best scientist; follow her principles.** This science, re-learned from Nature herself, is now internationally known as agro-ecology. For his seminal work, Bhaskar Save was awarded the prestigious global ‘One World Award for Lifetime Achievement’ by IFOAM, the largest world-wide umbrella organization for organic farming. He was very humble and ever ready to learn and share until his last breath.

The very first national gathering of promoters and practitioners of organic farming in India was held at Gandhiji's Sewagram in March, 1984. During the years between 1980 to 1995, outstanding personalities like G. Nammalwar in Tamil Nadu, Pratap Agarwal and Raju Titus in MP, Shoorvirsingh in UP, Mohan Shankar Deshpande, Dr. Dabholkar, and Pandurang Shitole in Maharashtra, Dharendra Soneji in Gujarat, Narayan Reddy and Suresh Desai in Karnataka and so many others had already adopted eco-friendly, chemical-free, sustainable farm technologies. They shared their knowledge freely with a generous, compassionate spirit, without claiming superiority over others.

In 1996, for the first time, Dr. Claude Alvares brought out a voluminous publication, titled 'Organic Farming Source Book' (Other India Press), covering various philosophies, concepts, principles, experiments and methods of organic farming. The book provided an excellent account of the holistic nature of the organic farming movement in India. The book also included state wise interviews and a directory of organic practitioners. It played a key role in building a nationwide network, which officially culminated in the 'Organic Farmers Association of India' (OFAI). Since then, many hundreds or thousands of farmers in various states have started practicing organic farming. Organic farming was initially believed to be an idealistic approach, but drew more attention from lay farmers of India when subsidies for fertilizers were reduced under WTO regime around 1994.

Today, various voluntary organizations, including spiritual and religious groups, have started promoting chemical-free, GM-free farming, encompassing various systems. The term 'Organic Farming' has remained a common umbrella term, understood by all, to accommodate diverse non-chemical approaches and terms as listed at the end of this note. Many felt and continue to believe that values, principles & concepts are more important than the names used. Finally, at the farmers' level, these diversities in terminology do not carry much value.

Several agricultural universities and centres of the Indian Council of Agricultural Research (ICAR) have proven that in most crops, organic farming yields **more and better** than chemical farming, even without quantifying its valuable ecological 'yields' and benefits like enhanced fertility of soil, and its increased capacity to absorb, harvest rain to recharge ground water aquifers; much higher energy efficiency; greater carbon sequestration, ... and so on. Still, there is huge scope for further research in this area; and the frontiers of science cannot be restricted by claiming that organic practices have been perfected. This is particularly true in a field like agriculture, where many disciplines and principles of science work together in an integrated way to cater the needs of diverse situations.

Zero Budget Natural Farming (ZBNF):

Since the last two decades, Subhash Palekarji has been advocating chemical-free farming, calling his methodology 'Zero Budget Natural Farming' (ZBNF). Through his undeniable oratory and dedication, along with his contacts in governments, thousands of farmers have been participating in his ZBNF camps. Palekarji appeared on the horizon of Indian agriculture when the ill-effects and vulnerabilities of chemical farming were becoming more and more evident. His wake-up call was thus very timely and got unprecedented response, perhaps reaching more people, compared to many others who taught similar concepts, principles and techniques before he did. State Governments of Andhra Pradesh and Himachal Pradesh generously supported his mission. His efforts also seem to have influenced the Prime Minister and Neeti Ayog. The Padmashri awarded to Palekarji in 2016 is a recognition and encouragement for all those working for chemical-free farming in the country.

From 1997 to 2000, Palekarji used to visit Kalpavruksha farm to learn from the outstanding veteran, Bhaskar Save, acclaimed as the 'Gandhi of Natural Farming', who inspired and taught three generations of farmers. Palekarji also learnt from the books of Magsaysay and Desikottam Award winner, Japanese natural farmer, Masanobu Fukuoka, who visited Bhaskar Save's farm in 1997, and declared it as the best he had seen in the world. Palekarji too was present in that gathering. In at least one of his camps (at Dahanu), Palekarji referred to Bhaskarbhai as his Guru.

Some veterans inform that Palekarji also learnt from various organic farmers of Maharashtra and Karnataka, spending much time with them to carefully document their practices and experiences, as he did with Bhaskar Save, on whom he had even started writing a book. Though he may not acknowledge any of them in his own teaching of ZBNF/SPNF, it is necessary to understand the source/s of knowledge of the farming methods and techniques taught by Shri Palekarji. Publicly informing these sources will enhance the credibility and value of Shri Palekarji's teachings; and may also help unify and strengthen our collective movement for minimal/zero cost, chemical free, nature-friendly farming. Further, it will significantly increase the confidence of our farmers to know where these methods and techniques have been practiced and found to help reduce or eliminate external inputs and expenses.

Mentioning the above history and background is necessary to understand and recognize that the knowledge and wisdom related to natural/organic farming is an aggregation of centuries of experiences of farming communities. Various pioneering farmers have tried to improve and add to the body of knowledge and methodologies. None can claim it as exclusive personal research. With this background, we would like to examine some of the controversial statements and claims made by Palekarji, which are difficult to support with any factual evidence or cogent explanation.

ZBNF and GM crops:

Genetically Modified (GM) crops are not prohibited in ZBNF; however, none of the natural or organic farming systems in the world permit GM crops. GM crops are developed through unnatural manipulation at the DNA level. They are riskier as the DNA in the seeds gets replicated to produce the next generation of the plant. They also contaminate non-GM crops and their wild relatives, severely endangering our wealth of biodiversity. They cannot be recalled, unlike agro-chemicals. All over the world, GM crops are seen to pose an extremely grave hazard. In India, farmers have claimed compensation due to failure of Bt. Cotton. In the last few years, the number of countries allowing commercial cultivation of GM crops has reduced from 33 to 26. GM technology is being promoted with the hidden agenda of claiming Intellectual Property Rights (IPRs) of giant agri-business multinationals over seeds.

The ZBNF proponents thus need to answer several pertinent questions: Do they believe that Jeevamrut-Beejamrut can reverse the effects of genetic modification? Will it reduce the production of Bt. toxin in plant cells? Will it reduce the hazardous impact of deadly chemicals like Glyphosate? (Please note that the use of Glyphosate is being restricted all over the world. It is also identified as a probable carcinogen by the World Health Organization.) Will ZBNF reduce or resist the encroachment upon the farmers' seed related rights in the name of IPR? (Let us not forget the recent episode of PepsiCo suing the potato farmers in Gujarat.) Will ZBNF allow illegal cultivation of Bt. Brinjal, or of other GM crops like Herbicide Tolerant cotton, mustard, and soybean? Will the ZBNF farmer own responsibility if his/her GM crop contaminates a neighbor's non-GM crop? It will increase the credibility of the mission if GM crops are prohibited in ZBNF/SPNF.

Quite impressed with ZBNF, the Chandrababu Naidu Government in Andhra Pradesh had decided to spend Rs 17,000 crore to convert the whole of AP to ZBNF, with the money coming through borrowings from international investors, some of whom are involved in promotion of GM crops! It is heartening to learn that the AP-ZBNF (aka AP-CRZBNF) has prohibited GM crops. The new AP state government now needs to confirm that its financial support to its farmers will be inclusive, based on the actual agro-ecological principles adopted, irrespective of name. Why should only farmers calling their practices 'ZBNF' be supported, and not those who use terms like 'organic', 'natural', 'agro-ecology', 'permaculture'?

ZBNF also needs to collaborate with other organic/natural farmers in a campaign to seek out and disseminate GM-free natural/traditional seeds, suited to the principles of natural/organic farming, and better adapted to diverse local conditions and needs. If Jeevamrut can be promoted as an alternative to chemical fertilizers, why not non-GM seeds? The ZBNF team has the human resource capacity to do so. Change makers need to promote real alternatives!

Where is the relevance of ZBNF?

The much promoted term, ‘Zero Budget Natural Farming’ (ZBNF) was first replaced by ‘Subhash Palekar Spiritual Farming’ (SPSF), saying “Zero Budget” is impossible in the present situation. Now, SPSF has again been replaced by ‘Subhash Palekar Natural Farming’ (SPNF). It seems that the term ZBNF has lost its relevance now. Is it not unwise to call a mission by the name of an individual promoter? Isn’t this approach fragile and detrimental to the movement?

Doubts are also raised about the number of practitioners of SPNF. The website (www.palekarzerobudgetspiritualfarming.org) claims 30 lakh, while some media reports mention 50 lakh, and Wikipedia states three crore! Experience has taught that over-exaggerating claims damages the movement, misleads farmers, and destroys credibility.

Opposition to organic farming:

Even though the principles and practices of organic farming and ZBNF have no significant difference, Palekarji has been opposing organic farming in all of his training camps. Ironically, many of these camps in initial years were organized by organic farming groups across the country. If one studies the history of the organic farming movement in India, it is evident that an authentic understanding of organic farming does not promote/support market supplied inputs or foreign species of earthworms, as objected to by Palekarji. While, there are hundreds of research papers and many more grass-root experiences proving the benefits of organic farming, casually dismissing all this by saying in his Times of India interview (22-7-19) that “organic farming is worse than atom bomb” is flagrantly untrue. Such a statement, which would be welcomed by agro-chemical and GM seed companies, only proves grave ignorance about both – organic farming and atom bomb –and reduces Palekarji’s credibility. The Indian organic farming movement, since its inception, has consistently discouraged use of market-supplied external inputs in natural/organic farming. Should we not realize that such “atom bomb” statements will perplex farmers, consumers and especially policy makers, who have just started paying attention to “back to basics”?

Given below is the definition of organic farming as widely accepted all over the world:

“Organic agriculture is defined as a holistic food production management system, which promises and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity. It emphasises the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological and mechanical methods, as opposed to using synthetic materials to fulfill any specific function within the system.”

– FAO/WHO, Codex Alimentarius Commission

Sweeping statements without scientific evidence are harmful:

While not challenging the role of the Desi (indigenous) cow in Indian natural/organic farming, we also need to appreciate the systems and techniques followed in different regions, where manure is available from local buffaloes, pigs, goats, camels, poultry and fish, or even cross-bred species, sometimes without the farmers themselves practicing animal husbandry. Let us respect such diversity. Moreover, can one show a single research paper concluding that “a free-ranging Desi cow will not produce even a single gram of methane”? “Vermicompost is worse than urea,” is another such incredible statement, which needs at least a shred of scientific evidence. Such statements damage the

credibility of those who are presenting alternative farming in a scientifically acceptable way, and it puts them in an awkward situation, including many ZBNF farmers. While the agro-chemical and GM industry is not leaving any opportunity to criticize alternative models of agriculture, are we not strengthening their hands with such absurd statements?

Even appreciating some good scientists, officers and facilities – which still exist in agricultural universities and departments – will be more fruitful for our common mission of non-chemical farming – than bad mouthing them vociferously. Let us not forget that some of the promoters of natural/organic farming, including Palekarji himself, are products of such universities.

No ‘natural’ and no funds for ZBF?

Doubts are being raised that by avoiding the word “natural” in the budget speech, ZBF may compromise on basic principles. There is also no mention of ZBF in the allocation table of the budget, though the Government may decide to use the PKVY budget to promote ZBF. But confusion arises here that ZBF farmers will not get organic certification, because PKVY does not allow GM crops. There is apprehension too that the government may use ZBF to withdraw diverse financial support to farmers, saying that farming has “zero” cost; and hence, farm income has “doubled!”

A grain of sand versus ocean:

The Task Force on Organic & Chemical-free Farming of the Central Government has recommended an allocation of Rs 12,500 crore every year to convert 10% of Indian agriculture to organic farming by 2025. Ignoring this recommendation, the present allocation of a mere Rs 325 crore for PKVY is like a grain of sand in an ocean. At the same time, Rs. 80,000 crore is allocated to subsidize chemical fertilizers. If these two allocations are distributed over 40 crore acres of arable land in India, it comes to Rs 2,000 per acre to subsidize chemical fertilizers; and only Rs 8 per acre to promote *Paramparagat Kheti*, or traditional non-chemical (and non-GM) farming!!

The true “back to basics” will be actualized only if these figures are reversed. Mean while, let us rejoice that the Indian policy makers have now started talking about “back to basics” in the farming sector; and that too, coming from the Finance Minister, who generally eyes economic growth only through enhancing GDP.

Wisdom must prevail:

Truth does not change by speaking loudly. Is it too much to expect that wisdom will prevail in the ZBNF/SPNF mission? What is our prime interest? Is it to criticize co-travellers, or to work with them in harmony? The ZBNF mission needs to understand that natural/organic farming in India is not merely improving soil and plant health through preparations/techniques, increasing yield and reducing cost. It is much more than that. It is also about the relation of the human race with nature, our rights over resources, and about empowering the farming community comprehensively, including problem solving capacity and marketing opportunities for more remunerative returns. It is a holistic paradigm shift based on non-negotiable principles, not just a technological change. Let us instead shake off these controversies, take a saner stand, and add fragrance to the gold that is named ‘natural’ or ‘organic farming’ by some, and ‘agro-ecology’ or something else by others. One can never hope to grow into a giant banyan tree by cutting one’s own roots.

Post Script:

Very recently, an open letter, endorsed by a dozen senior, experienced practitioners and promoters of organic/natural farming – requested Palekarji to withdraw: (i) his statement that organic farming is worse than atom bomb; (ii) his permission/approval to ZBNF farmers for planting GM seeds like Bt Cotton. Alternatively, the letter urged Palekarji to engage in an open public debate on these issues, either in writing, or through open, face-to-face dialogue.

About the authors:

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Bharat Mansata is an ecological farming researcher and writer since 3 decades; and is also actively involved in ecological and forest regeneration, rainwater harvesting and biodiversity conservation since 25 years. He has authored several publications: 'The Vision of Natural Farming' – on Bhaskar Save's philosophy and practices; 'Organic Revolution'; and co-authored 'Anna Swaraj: a Vision for India's Food Sovereignty and Agro-ecological Resurgence'. He is associated with OFAI, ASHA and Bharat Beej Swaraj Manch (India Seed Sovereignty Alliance). He can be contacted at bharatmansata@yahoo.com

A non-exclusive list of terms used for various agro-ecological approaches in India

Terms used in Indian languages (Kheti and Kri(u)shi can be replaced with each other):

Ahinsak Kheti	Akshay Krishi	Amrut Krishi
Chiranjiv Kheti	Gay Adharit Kheti	Gaukrishi
Iyarkai Vivasayam	Jeevant Krushi	Jaivik Krushi
Kudarati Kheti	Nanak Kheti	Paramparagat Kheti
Prakrutik Kheti	Swavalambi Krushi	(Sam)Poshak Kheti
Rishi Krishi	Rasayan-Mukt Kheti	Sajiv Kheti
Sri Kheti	Swavalambi Kheti	Sendriya Kheti
Sashwat Kheti	(Swa) Deshi Kheti	Sarwangee Kheti
Swashrayee Kheti	Vaikalpik Kheti	Yogic Kheti
Zahar/Vish-mukta Kheti		

Terms used in English language (Farming and Agriculture can be replaced with each other):

Agroecolog(y)/ical Farming	Alternative Farming	Bio-Farming
Biodynamic Farming	Cool Farming	Chemical-free Farming
Climate-friendly Farming	Do-nothing Farming	Ecological Farming
Green Farming	GMO-free Farming	Homa Farming
Indigenous Farming	Microbial Farming	Natueco Farming
Natural Farming	No External Input Farming	Organic Farming
Permaculture	Poison-free Farming	Regenerative Agriculture
Slow Farming	Sustainable Agriculture	Traditional Farming
Subhash Palekar Natural farming (SPNF)		Zero Budget Natural Farming (ZBNF)