



# Natural Farming in the Ganga Basin

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In the middle of a big farmers' gathering in Bulandshahar, a hand rose, enthusiastically, to say a few words on Natural Farming. His confident voice echoed: "Not just in this life, but if there are 7 more lives to come, I will not shy away from saying that Natural Farming is the best way of growing crops. It is a farmer's great relief." The 48-year-old Sanjeev Kumar, a farmer from Bulandshahar, who completely moved to "chemical-free" farming in 2012 is now profiting from his healthy yield of sugarcane, turmeric, millets etc. many more times than ever before. He delightfully informs the listening of his new home, giving a glimpse of a happy and prosperous life he is leading.

The villages abound with such cases: Ajay Pal Singh Pawar from Uttarakhand left his Merchant Navy job to grow traditional herbs like Rosemary, Lavender, Oregano, Himalayan Thyme naturally, now with a team of 6000 farmers spanning 3 districts. Padmashree Bharat Bhushan Tyagi moved to Natural Farming because of low yield otherwise. Ved Vyas Chaudhary sows Mangoes and Tomatoes, among others, and is a fine ambassador of 'low cost, more profit through Natural Farming' mantra. One could, joyously, add to this list of farmers who have willfully moved to Natural Farming for good and are never

short of praises for their ancestral and traditional agricultural wisdom.

Why has suddenly Natural Farming acquired such significance? About a year ago, from the ramparts of the Red Fort, Prime Minister pitched Natural Farming as "a path to Atma Nirbharta". UNGA has declared 2023 as International Year of Millets. Millets is produced naturally in several parts of the country and has been a part of India's traditional healthy eating practices.

The agriculture sector plays a crucial role in India's economy. Around 55% of the total workforce is engaged in agriculture and allied sector activities (Census 2011) and accounts for 18.6 % of India's Gross Value Added during 2021-22. As per Fourth Advance Estimates for 2021-22, the production of food grains in the country is estimated at 315.72 million tonnes which is higher by 4.98 million tonnes than last year (Annual Report 2022-23). It is indisputable that the Green Revolution revolutionized the food production in India and transformed the agriculture sector from subsistence to



surplus generating enterprise.

However, indiscriminate use of chemical inputs (fertilizers, pesticides, insecticides etc.) has deteriorated soil health and fertility and contaminated the natural resources, especially rivers, warranting an urgent need to explore alternative agricultural methods that are sustainable, environment-friendly, low-cost and healthy for farmers, consumers and the natural resources.

Natural Farming is a chemical-free farming system based on livestock and locally available resources, rooted in Indian tradition. It is primarily based on four basic elements, Jeevamrit, Beejamrit, Ghan-Jeevamrit (Acchadana) and Vapasa. As Sanjeev Kumar puts it, "Even Organic farming is labor-intensive, certification-based and low yielding. Natural Farming, on the other hand, runs on inputs prepared naturally from and in the farm such as cow dung, mulching etc."

Natural Farming strengthens microbes present in the soil and provide natural nutrients to the plants. It enables earthworms (kenchua) to restore natural nutrients and facilitates water holding capacity of the soil. It, therefore, uses "sukshma jeevanu" (microbes) and "sukshma jantoo" (earthworms) to strengthen the soil preventing the use of external chemical inputs. The less the use of chemical fertilizers, the less the pollution in surface run-offs - ultimately a



(Left) Farmers attending the workshop. (Inset) G. Asok Kumar, DG, NMCG and Shri Subhash Palekar at an exposure visit of farmers during a Subhash Palekar Natural Farming workshop organised by NMCG in August 2022 in Shirdi, Maharashtra; (Right) Farmer Sanjeev Kumar has grown 12 crops through Natural Farming in Bulandshahar district, Uttar Pradesh

merrier and cleaner river Ganga.

Farmers can learn from each other. Zero Budget Natural Farming is one of the key pillars of Namami Gange's Arth Ganga campaign. In a bid to leverage the high potential of NF in the fertile Indo-Gangetic plains, the farmers from diverse regions are brought together to share experiences. Such meetings have been successfully organised so far in Shirdi, Bulandshahar, Sonapat, Meerut, Haridwar, Hastinapur, Bijnor, Saran, Bhojpur, Buxar, Samastipur, Purnea, Katihar, Bhagalpur and Khagaria. Hand-holding of farmers is being done through MoUs with Agriculture Ministry, Sahakar Bharati, Art of Living and Patanjali. 'Sahakar Ganga Grams' are being set up. The Natural Farming push if integrated with 'Sahi Fasal' ensures wise cropping pattern to maximize the environmental and economic agricultural output. Millet Farming is also being taken in the Ganga Basin in a big way. 'Ganga Bhog-Gangotri se Ganga Sagar Tak' "Panch Ma" concept to facilitate local Mahila (women) to make laddoos using local Madhu and Mota Anaj (Millets) from local Mitti to be given as Ganga Bhog (Prasad) at Mandirs on the banks of Ma Ganga- is a step in that direction promoting PM's message of "Vocal for Local". It is NMCG's endeavor to make Ganga Basin a Millet Basin. A pilot study to evaluate the effect of Natural Farming on water usage, soil fertility and crop production is being carried out by WALAMTARI, Andhra Pradesh. Namami Gange is facilitating integration of GOBARDhan scheme to support Natural Farming by converting waste into wealth.

The circular economy model adopted under Namami Gange also promotes reuse of treated wastewater and sludge. Selling of treated wastewater from the Mathura sewage treatment plant to Indian Oil Corporation Limited

(IOCL) and MoUs with railway and power ministries for reuse of treated wastewater for industrial purposes are cases in point. A 'National Framework on Safe Reuse of Treated Water' was released in January this year. It acts as a guiding document for whoever wishes to make robust policies for reuse of treated water. Workshops are being organised on sludge management. A first-of-its-kind study of the sludge found in sewage treatment plants has found its "high potential" to be used as fertilizer and biofuel after required treatment.

The impactful initiatives under Namami Gange programme are not going unnoticed. The visible improvement in the water quality of river Ganga exemplified by the increased sightings of aquatic species such as Gangetic Dolphins, Otters, Hilsa etc. is at the helm of the global recognitions to Namami Gange programme. First: adjudged one of the world's top 10 restoration flagship programmes to revive the natural world by the United Nations. Second: selected as the only Indian entity to organise a side-event at the UN Water Conference in New York.

More than 8,000 farmers have been successfully nudged towards Natural Farming in the past one year with Arth Ganga initiatives. Farmers are growing healthier crops with much less external inputs enabling more "net-income per drop." In the absence of contaminated run-offs, Ganga also breathes better.

Natural Farming in the Ganga Basin is serving the twin objective of self-sufficient farming and abatement of pollution in the river. The better monetary benefits accruing to farmers through chemical-free farming would surely usher-in a transformational change in agricultural practices in the Basin in times to come. Although some inroads have been made in attracting farmers towards chemical-free farming in the past one year or so, there is still a long way to go.

To aspire for a 'chemical farming-mukt' Ganga Basin, Natural Farming is the need-of-the-hour. Whereas a technologically-aided modern outlook is necessary, a flashback every now and then into the traditional wisdom on preserving natural resources augurs well to strike the "sustainable" balance.



A group of scientists taking stock of the turmeric and brinjal grown by a farmer along with sugarcane