

Nürnberg, Germany 12.– 15.2.2020

# BIOFACH2020

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**„Organic delivers!“...and contributes to save biodiversity**

**„Biodiversity can help to save the planet“**

## **Interview with Dr. Vandana Shiva**

**Under the banner “Organic delivers!” the main congress theme of BIOFACH 2020 will highlight the positive impacts of organic production methods. The third conversation in the BIOFACH interview series on this topic explores the positive effects of organic farming on biodiversity.**

Biodiversity is the basis of life. This is the truth and the very strong commitment of Dr. Vandana Shiva. She is a world-renowned environmental thinker, organic activist, physicist, feminist, philosopher, writer and science policy advocate. In numerous books and publications, as well as in countless documentaries and lectures on her tireless travels around the world, Dr. Vandana Shiva is committed to the conservation of biodiversity, seed sovereignty and food security through ecology and organic farming. At the same time she fights vehemently against the so-called Poisonous Cartel of the seed and pesticide industry and against biopiracy. She founded the Research Foundation for Science, Technology and Ecology (RFSTE) and Navdanya (140 seed banks in India). Among others she received the Right Livelihood Award (Alternative Nobel Prize). In her current book "Another world is possible" she outlines the vision of a pesticide-free world by 2030.

**Dr. Shiva, you are a tireless advocate for the conservation and promotion of biodiversity and indigenous knowledge in agriculture, and for food security. In a recent tweet you've said „Maximising biodiversity farming and organic matter production thus simultaneously increases climate resilience, food security and water sovereignty.“**

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**Could you please explain to us what role biodiversity and the ecological work of small farmers plays in the balance of the planet, why we need to preserve biodiversity so urgently?**

Biodiversity is the basis of life. Chemicals derived from fossil fuels and used for wars and to kill people, later became agrochemicals, pesticides, fertilizers, herbicides. Chemical intensification of agriculture is responsible for climate change and for species extinction - insects, birds, fish, plants. Rachel Carson had warned us about the harm of pesticides more than half a century ago. And Albert Howard in the Agriculture Testament has warned us about the harm of synthetic fertilizers and the imperative to shift to organic farming. External inputs of chemicals have also promoted monocultures, and the illusion that monocultures increase "yield" and higher yields of a few commodities is necessary to feed the world. This is false as I showed in my book „The Violence of the Green Revolution“ (\*1).

As we have shown in Health per Acre (\*2) the true measure of food production is "nutrition per acre" not "yield per acre". With biodiversity intensification instead of chemical intensification, we increase nutrition per acre and can feed more people with healthy nutrition. Biodiversity also provides soil fertility and controls pests and weeds.

Yield is anyway a miss measure, it is not a measure of care for the land. What matters is "not 'yield of harvest', but the state in which the field is left". Leaving the soil in a better condition after the harvest is care for the land. Chemical fertilizers leave the field in worse health, destroy the true productivity, and hence food production.

Contrary to the myth that small farmers and their biodiverse agroecological systems should be wiped out because they are unproductive, and we should leave the future of our food in the hands of the „Poison Cartel“ (agro-industry), small scale farmers are providing 80 % of global food using just 25 % of the resources that goes into agriculture. Industrial agriculture is using 75% of the resources while providing only 20% of our food. (\*3)



It is also a fact that the manufacture of synthetic fertilisers is highly energy-intensive. One kg of nitrogen fertiliser requires the energy equivalent of two litres of diesel. Energy used during fertiliser manufacture was equivalent to 191 billion liters of diesel in 2000 and is projected to rise to 277 billion in 2030. This is a major contributor to climate change, yet largely ignored. One kilogram of phosphate fertiliser requires half a liter of diesel. (Shiva, Soil Not Oil 2008, \*4).

Since synthetic fertilisers are fossil fuel based, they contribute to the disruption of the carbon cycle. But they also disrupt the nitrogen cycle. Nitrous oxide is 300 times more destabilising of the climate than carbon dioxide. 50% of all Green House gases are emitted from the industrialised, globalised food system. And chemical fertilisers also disrupt the hydrological cycle, both because chemical agriculture needs ten times more water to produce the same amount of food than organic farming, it reduces the water holding capacity of soil and it pollutes the water in rivers and oceans.

Returning organic matter to the soil builds up soil carbon and soil nitrogen. A recent study we have undertaken shows that organic farming has increased organic matter content up to 99% and nitrogen content of soil between 44 -144%, depending on the crops.

**You founded Navdanya - which means „Nine Seeds“ or „New Gift“ - and 140 seed banks across India were established by your foundation Research Foundation for Science, Technology and Ecology (RFSTE). What has been the main motivation for these actions in regard to biodiversity?**

I started saving seeds when the chemical industry said at a meeting on "Laws of Life" addressing the new Biotechnologies in 1987 that they were going to introduce GMOs in order to patent seeds and they were working on a global intellectual property regime to make patents on seed compulsory across the world. A patent makes anyone else using what is patented illegal. In other words, farmers who have bred the seeds that feed us would be criminalised for saving seeds.

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With Navdanya we have created 140 community seed banks so the biodiversity of seeds can be saved, the freedom of seed to evolve can be protected, farmers rights to save and exchange their seeds freely can be defended. I also contributed to India's laws that protect the integrity of seeds and of farmers rights. Article 3j of our Patent Act states that plants, animals and seeds are not human inventions, hence not patentable. Article 39 of our Plant Variety Protection and Farmers Rights Act, which I helped draft states that farmers right to save, exchange, improve and sell seeds can never be taken away. This law was used to force Pepsi to withdraw its case against 4 farmers, suing them for Rs 10 million each for saving potato seed.

We are also engaged in Gandhian Satyagraha, the Seed Satyagraha, to prevent laws that would destroy biodiversity and farmers rights. In 2004 we stop a Seed Law. We are starting a Seed Satyagraha against a new Seed Law which would rush GMOs and increase corporate control. (\*4)

## **Organic delivers – on many levels. How does organic farming contribute to the protection and promotion of biodiversity? How do you estimate today's impact and the future potential?**

Organic farming works to produce more organic food while conserving and growing biodiversity. At Navdanya we have promoted biodiversity based on organic farming which increases nutrition of soil and of people. Biodiverse intensive farming has increased soil biodiversity as well as insect and pollinator biodiversity - which is extremely important, too. And as our manifesto on Food For Health shows, biodiversity improves the health of people and of the environment. (\*5)

Chemical monocultures are killing insects, destroying the rainforest of the Amazon to grow GMO soya beans, they are desertifying the soil, they have created an ecological emergency, consisting of a health, a climate, a water and an agrarian emergency. Biodiverse organic farming provides solutions to the multiple emergencies.



## **What is most urgent to stop the dramatic effects of species extinction?**

We can begin to stop the species extinction by growing and eating biodiversity, by making our homes, communities, regions poison free. This is why Navdanya has started the Poison Free Food and Farming campaign. (\*6)

## **Whom would you address first and what are your main demands?**

My main demand is a poison free world which protects the biodiversity of species, our small farmers and people's health. This is growing from the local small farmers movement across the world. We have to change the narrative of feeding the world, realising that biodiversity feeds us, pollinators produce one third of the food we eat, earth worms feed us, small farmers provide most of the food we eat. (\*7)

We have to be alert to the new tricks to continue industrialisation of agriculture and food through digital agriculture, fake food and fake economics of Zero Budget. (\*8)

We have to create local, circular, biodiverse food economies to protect the planet, our livelihoods and health – and grow democracy. Earth Democracy begins as Food Democracy!

The interview was conducted by Karin Heinze, BiO Reporter International

## **Bio**

**Vandana Shiva** was born 5 November 1952 in Uttarakhand/ North India. She studied physics in India and philosophy in Canada and the U.S. Later she went on to pursue interdisciplinary research in science, technology, and environmental policy in India. She was board member of the International Forum on Globalization and received the [Right Livelihood Award](#) in 1993 (Alternative Nobel Prize). Dr. Shiva founded the Research Foundation for Science, Technology and Ecology (RFSTE) and Navdanya.

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In 2004 Shiva started Bija Vidyapeeth, an international college for sustainable living in Doon Valley, in collaboration with Schumacher College, UK.

She authored more than 20 books, was interviewed in films and a speaker at many conferences

Her office is in Delhi, on her mission she is traveling the world.

## Sources:

\*1 Vandana Shiva "The Violence of Green Revolution: Third World Agriculture, Ecology and Politics"

\*2 Health per Acre

(<https://www.navdanya.org/attachments/Health%20Per%20Acre.pdf>)

\*3 FAO <http://www.fao.org/zhc/detail-events/en/c/270855/> and <http://www.fao.org/news/story/en/item/260535/icode/>

\*4 Navdanya, Seed Sovereignty <https://www.navdanya.org/bija-reflections/2019/11/04/the-the-seed-bill-2019-is-a-threat-to-indias-seed-sovereignty-and-farmers-rights/>

\*5 Manifesto Food for Health

<https://navdanyainternational.org/publications/manifesto-food-for-health/>

\*6 Poison Free Food and Farming campaign

<https://navdanyainternational.org/cause/poison-free-food-and-farming-2030/>

\*7 Vandana Shiva "Who Really Feeds the World?: The Failures of Agribusiness and the Promise of Agroecology"

\*8 <https://navdanyainternational.org/publications/the-future-of-food-farming-with-nature-cultivating-the-future/>