

Save the Air, Save the Hands that Feed us!

With every new year, comes the new theme for the World Environment Day; and this year's theme is **"Beat Air Pollution"** hosted by China focusing on partnering with other countries to address pollution control and climate change. This effort does not come as a surprise as air pollution continues to haunt the Chinese government with almost estimated 267-billion-Yuan loss in Chinese economy in the form of early deaths and or loss of food production.

While **Air Pollution** caused by industrial and transport effluent is one of the major concerns of the urban areas and industrial pockets around the world, air pollution in the rural areas is equally problematic. **Environment and health degradation through insecticides and pesticides is one of the major concerns especially in India.** Do you remember the deadly impact of insecticide Monocrotophos in 2017, which took lives of 21 people in Yavatmal district alone, and 42 people from 14 other districts in Maharashtra in three months?

Pesticides and insecticides come in three different forms; solids (in powder form), liquids, and aerosols (sprays). These chemical inputs are capable of polluting the water, soil, air and affecting human health through oral, respiratory and dermal entry. While some of the ingredients of pesticides especially spray stay in the atmosphere for short period of time, others last longer, and might settle on the ground. They are broken down by sun, water, or dissipate into the surrounding air.

While the Special Investigative Team (SIT) post Yavatmal tragedy concluded that mixing of different types of pesticides and incorrect handling practices were few of the main reason for the deaths, the question remains;

Are there no alternatives to chemical pesticides?

Is there no way we can grow our food without harming the very environment that allows it to grow and the hands that nurture it in the first place?

Chemical inputs in agriculture have steadily grown to be major cause for environmental and health concerns for the farmers and consumers.

While biological and other techniques such as Integrated Pest Management (IPM) are available and have been encouraged to use, there is hardly any concerted action to push for its implementation with the urgency that is needed, especially from the conventional agriculture bodies and sources.



On the other hand, the slow and steady rise of sustainable agriculture, zero budget farming and natural farming techniques have invented and created substitutes and alternatives for these chemical inputs. Alternatives such as vermiwash, neem oil, jatropa oil, or solutions of natural ingredients such as chilli, neem, white dhotara, papaya and guava leaves, cow urine in various combinations form Agniastra, Bhramastra as coined by Subhas Palekar, the father of natural farming in India.

The authors of *Nourished Planet* while compiling an extensive book on sustainable food system rightly said, *"As goes the fate of the women, so goes the fate of the world"*; and in our AMCHI programme at Population First, we are keenly aware of the contribution of women in rural scenario especially the agrarian sector. From sowing of seeds to thrashing of the harvest, from seed saving to animal husbandry, women are integral part of the farming process. Their contribution, their knowledge through years of observation cannot go unnoticed. Therefore, to ensure women's participation in leading a sustainable agriculture movement in our Shahapur

area, we have encouraged vermicompost and vermiwash production by women business groups from 2011 onwards. This intervention with two pronged objectives of women's economic independence and promotion of sustainable agriculture practices has been implemented in **55 villages**. **Four Hundred and eighty-five women** have gained economic independence and approximately **4500 farmers** have utilized vermicompost and vermiwash for their agriculture production.



A preliminary research online describes vermiwash as a foliar spray which holds multiple purposes—acts as a crop tonic, pesticide, and disease curative. It is rich in vitamins, enzymes, hormones, macro and micro nutrients. Combining it with neem extract, Jatropa foliage, or its own partner vermicompost have had a considerable impact on lowering of insects and pests on the plants among other things, according to an academic review paper by Sudhanshu Verma (2018) from Banaras Hindu University (BHU).

This promotion for vermicompost and vermiwash production has yielded successful results. Last year, twelve women groups across our project areas comprising of 73 women managed to produce 223 litres of vermiwash. They have sold and used this product on their own fields and have seen considerable change in their crop production. This paints an optimistic picture of the application of biological alternatives over aggressively marketed chemical inputs.

The flowers have not fallen down which is a good sign of higher production. In other crops (chemical fertilisers), I observed 50% of flowers fell but in demonstrative plot only 10% flowers had fallen”

Jayram Padu Bhoir, Farmer

Ek Nath Waman Nivruti, a chilli and capsicum cultivator, ordered ten quintals of vermi-manure, since he was looking to deviate from his conventional practice of chemical fertilizers which in the last three years had increased his production cost by more than 55% and was hopeful that the usage of vermi-compost and vermi-wash will reduce his production cost by 45% in three years.

“I believe in future Eksal will be the biggest user for vermi manure and a village known for production of organic crops”

Ek Nath Waman Nivruti,

Notwithstanding such positive outcomes across the country where farmers, NGOs, and sustainable agriculture enthusiasts and activists are witnessing while experimenting with these alternatives, there is a long way to go in this field. There is a dire need for serious and in depth research, responsibility in promoting these techniques by conventional and mainstream agriculture and environmental institutes in the country, and written policy on the same by the centre, if we truly wish to address environmental—air, soil, and water—pollution and **save the hands that feed us**.

#WorldEnvironmentDay2019 #BeatAirPollution