Improving Health through Organic Farming

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By

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Who is Janhit Foundation?

Janhit Foundation is an independent, not-for-profit non-governmental organization, actively engaged in the promotion of human welfare through environmental protection since 1998.

Key Areas of Work Include:

- Groundwater Quality Protection for Human Health
- Provision of safe drinking water to Marginalized Communities

What Janhit Foundation Does?

- Protection of River Water Quality for Aquatic Ecosystems
- Enhancement of Available Water Resources through water conservation measures
- Promotion of sustainable agriculture by organic farming methods
- Environmental education and empowerment of local communities
- CHILDLINE service a project under the ministry of 'Women and Child Development'

What are POPs

Persistent organic pollutants (POPs) are organic compounds that are resistant to environmental degradation through chemical, biological, and photolytic processes. Because of this, they have been observed to persist in the environment, to be capable of long-range transport, bioaccumulate in human and animal tissue, biomagnify in food chains, and to have potential significant impacts on human health and the environment.

Almost all listed POPs have been detected in alarming levels in food stuffs including milk, eggs, meat, spices etc. despite being banned

Stockholm convention (www.pops.int) the goal of which is to protect human health and the environment from POPs initially focusing on twelve dangerous POPs. The convention advocates on banning the production, import, export and use of POPs.

Results of Presence of POPs in Western UP

Vegetable

S.No	Vegetable	α-BHC (µg/kg)	β-BHC (µg/kg)	δ-BHC (µg/kg)	Heptachlor (µg/kg)	Dieldrin (µg/kg)	Endosulfan I (µg/kg)	4'4'DDE (µg/kg)	Aldrin (µg/kg)
1	Lady Finger	5.9	15.2			11.9	20.1		
2	Brinjal 2			6.1	20.8	15.4			
3	Potato		9.6	9.8					

Water

S.No	Water	α-BHC (µg/l)	β-BHC (µg/l)	gama-BHC (µg/l)	δ -BHC (µg/l)	Heptachlor (µg/l)	Heptachlor Epoxide (µg/l)	Endosulfan I (µg/l)	Aldrin (µg/l)	Fipronil (µg/l)
1	(Shamli bus stand)	2.3			0.31	1.4	2.6	0.5	2.07	5.4
2	Handpump (near Kali river 40 feet)		1.06	0.15		0.10	0.19	0.31	0.12	
3	Hindon River	0.23	0.31			1.6				1.52

Soil

S.No	Soil	Fipronil (µg/kg)	Endrin Aldehyde (µg/kg)	Heptachlor (µg/kg)	Heptachlor Epoxide (µg/kg)	Dieldrin (µg/kg)	Endosulfan I (µg/kg)	4'4'DDE (µg/kg)
1	Tomato Field	233.7	78.82			5.73	5.21	465.7
2	Sugarcane Field 3	145.5		6.78	8.68			
3	Sugarcane Field 4	175.76		11.1	22.33			

Source: Study conducted by Janhit Foundation

No Place To Hide

Air

POPs travels globally through

Marine

Fresh Water

Enter our syste m

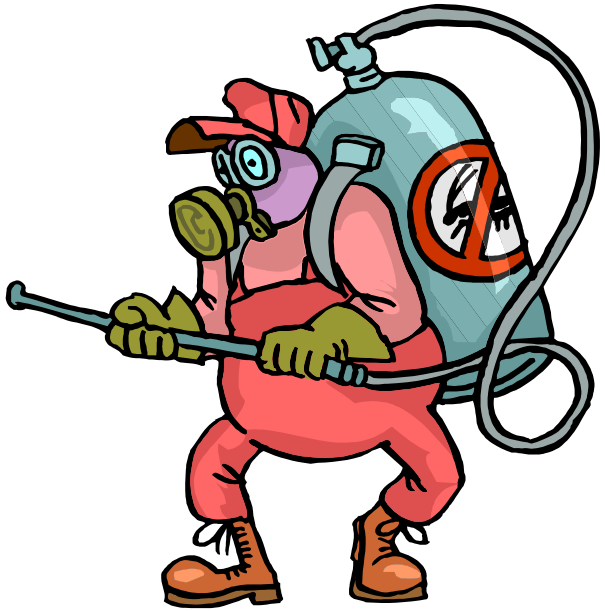
Ingestion

Inhalation (Lung)

Skin (Dermal)

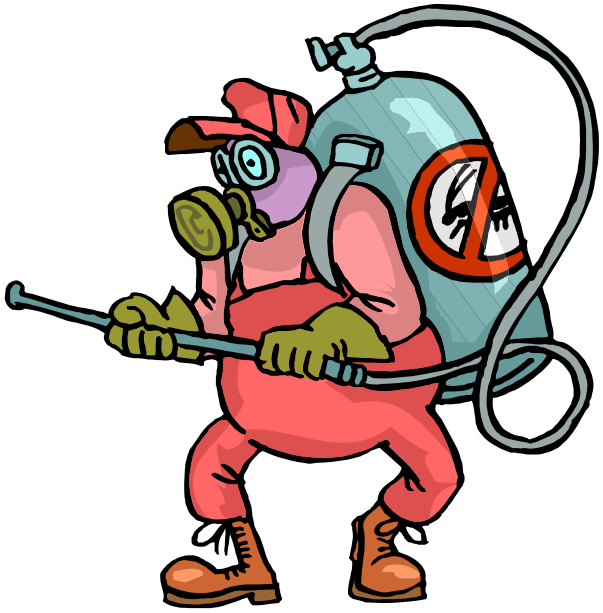
Sources of Exposure

- Accidental ingestion
- Lawn and garden use
- Insect control
- Food supply
- Water supply
- Dietary exposure
  - ✓ Pesticide residues on crops



Sources of Exposure

- Community exposure
  - ✓ Airborne drift from commercial app
- Contaminated drinking water
  - ✓ Leaching from soils to ground water Farms & Farm worker
- Pesticide applicator
- Mixing and handling
- Many more ……



Lindane

Lindane is an organochlorine insecticide, also known as gamma-hexachlorocyclohexane (HCH)and benzene hexachloride (BHC).

It is a potential POP

It has been used in agricultural and in pharmaceutical products for the treatment of headlice and scabies.

Lindane is banned in 52 coutries.

Endosulphan

Endosulfan is a neurotoxic organochlorine insecticide of the cyclodiene family of pesticides. It is highly toxic and an endocrine disruptor, and it is banned in several countries including Germany, Norway, and the Philippines.

Endosulphan

A link was established between the unusually high incidence of deformities and diseases in Padre — a village in Kerala's Kasaragod district — and endosulfan, an organochlorine pesticide. Laboratory analysis conducted by the Centre for Science and Environment (CSE), New Delhi, revealed that all samples collected from the village contained very high levels of the pesticide that has ironically been either banned or restricted in many countries.

Adverse Effects on Humans, Wildlife and Environment

- Damage to the nervous system
- Birth defects
- Created health problems: Cancer, Heart problems, Neurological Disorders, Eye problems, Reproductive problems etc.
- Reproductive problems in Livestock and Birds
- Damage to the immune system
- Land degradation
- Low productivity

Adverse Effects on Humans, Wildlife and Environment

- Increased Cost of Cultivation
- Increased resistance power in insects
- High loss due to pests and diseases
- Loss to the soil micro-organisms
- Decreased water-level
- Presence of chemical and pesticide residues in the agriculture produce
- Increased environmental pollution: Soil, Water and Air

Target Of The Project

- Intervene at the policy level to see that the two deadly pesticides namely Lindane and Endosulphan are eliminated from the agricultural practices of Western UP

- Promote alternatives to these deadly pesticides through organic inputs.

- To see that the income of farmers is enhanced by the sale of organic agriculture produce. This will help in sustaining the project and also its replication in other districts of western UP

- Promote bio-diversity by substituting monoculture of sugarcane with varied crops e.g. Lemongrass, Citronella, Flowers and medicinal plants
- Develop local market to enhance income

Project Activities

- To begin with Spread the message amongst 400 Farmers
- Conduct Soil Testing
- Form Self Help Groups, Kisan Charcha Mandals
- Apply Water Saving Technologies i.e. Rain gun and others
- Provide alternate crops: Lemongrass & Citronella
- Research on quantum of pesticides used in each crop

Project Activities

- Develop Demonstration Centers
- Get Certification done.
- Bring out a pamphlet in Hindi about the impacts of Lindane and Endosulphan and a pamphlet on ‘a stepwise guide’ to organic farming
- Published a brochure on the Impact of Lindane and Endosulphan for information dissemination

Organic Farming : The Alternative

- Green Manuring
- Composting
- Liquid Manure – Jeewamrit, Beejamrit, Vermiwash etc.
- Vermi composting
- Nadep composting
- Super composting
- BGA/ Azolla Production
- Biogas Slurry
- Bio-dynamic Preparation

Organic Farming : The Alternative

- Bio-fertilizers – Azot, P.S.B., Azos, Aceto, Rhizo etc.
- Botanical Pesticides – Harit Pani, Herbal Spray etc.
- Bio – pesticides: Beauvaria bassiana, Metarhizium, Trichoderma Pseudomonas etc.
- Local preparations and Neem preparations
- Matkka Khad
- Bhaboot Amrit Pani
- Panchgavya
- Agnihotra

Measurable Impacts

- Soil testing results pre and post, 1 year of Organic Farming
- Certification – Shows credibility of organic produce
- Chart depicting increase in area
- Increase in number of affiliations and inquiries
- Cost Comparison Chart

Chemically grown Sugarcane		Organically grown Sugarcane (Per Acre)	
Urea	– 1560.00		
DAP	– 1500.00		
Seed	– 4000.00	Seed	– 4000.00
Ploughing	– 6000.00	Ploughing	– 6000.00
Sowing	– 1500.00	Sowing	– 1500.00
Pesticides	– 2100.00		
Hoeing	– 2400.00	Hoeing	– 2400.00
Binding	– 800.00	Binding	– 800.00
Harvesting	– 2500.00	Harvesting	– 2500.00
Transportation	– 2500.00	Transportation	– 2500.00
Irrigation	- 1500.00	Irrigation	- 1200.00
Total	– 26360.00	Total	– 20900.00

- **Rs. 5160.00 per acre per year net income through organic farming**
- **Land Cost, Farmer labour cost and other hidden expenditures are not include**
- **Water requirement for organically grown crops is 30 to 35% less than what is required in chemically grown crops**

Thanks

The Function of a Pesticide is to Kill or Harm some form of Life.

Can What is Harmful to Pest be Safe for Me?

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